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The American Scholar

Vol. I May · 1932 No. 3

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The American Scholar

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THE AMERICAN SCHOLAR is published four times a year, January, March, May, and October, by The United Chapters of Phi Beta Kappa. The annual subscription is $2 (Canada, $2.25; foreign, $2.50). Editorial and business offices, 145 West 55th Street, New York, N. Y. Printing office, The Scribner Press, 311 West 43rd Street, New York, N. Y. Entered as second-class matter January 27, 1932, at the Post-Office at New York, N. Y., under the act of March 3, 1879. Printed in the United States of America. Copyright, 1932, by The United Chapters of Phi Beta Kappa.

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The American Scholar

PHI BETA KAPPA, the college honor society founded in 1776 at the College of William and Mary in Virginia and now having chapters in one hundred and twenty-six American colleges and a living membership of over 63,000, publishes THE AMERICAN SCHOLAR not only for members of Φ B K but for all who have general intellectual interests.

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The promotion in America of liberal scholarship.

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Contents

PAGE

John Marshall — James Truslow Adams — 261

The historian sees in the great jurist's advocacy of a strong federation of states, not only national but also international significance.

George Washington and Political Parties — Murray Seasongood — 265

A timely indictment of political corruption, especially the pollution of state and national politics by municipal machines—in which Judge Seabury of New York is quoted.

The Road to Weimar — Bliss Perry — 272

Here one sees Goethe falteringly but inevitably conquer England and America, and in the process American literary scholarship is seen in the making. Given at Harvard and Williams in honor of Goethe on this centenary of his death.

The Economist Under Fire — Frederick Alden Bradford — 292

An apology for the profession—a castigation of pseudo and publicity-minded economists.

The Technique of Creative Thought — Eliot D. Hutchinson — 296

Containing practical suggestions from a study to which Aldous Huxley, Bertrand Russell, William Butler Yeats, and others contributed.

The Mandates — Fannie Fern Andrews — 307

A survey of the Mandates—the handiwork of Woodrow Wilson and the League of Nations—especially the turbulent populations of Palestine and Syria, and their national and racial determinations; by the author of *The Holy Land Under Mandate*.

Cooperation in American Research — W. H. Cowley — 318

An impressive survey of the nature and amount of research in America, with interesting examples of relationships within and among industries and universities.

The Thinness-Fatness of English Teachers — Walter Barnes — 326

A burlesque of the present tendency in statistical research.

The Evolution of Art and Science in Our Bridges — J. A. L. Waddell — 331

By an eye-witness, so to speak, and for eye-witnesses.

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ELECTRONIC REPRODUCTION PROHIBITED

Contents

PAGE

Humanizing Education — Hamilton Holt — 346

A criticism of prevalent lockstep, lecture, and recitation methods in college courses; and a tried moral equivalent—cooperation vs. warfare between student and teacher.

Washington, Capitalism, and Nationalism — Henry W. Lawrence — 352

Bicentennial praise, ironical in misapplication of Washington's thought, is set aside; while Washington's real advice is recast in terms of deflation of capitalism, and of internationalism vs. separatism and isolation.

Editorial

Our Moral Morass — William Allison Shimer — 360

The Roll of Honor of the Colleges — Adam Leroy Jones — 362

In the Realm of Scholarship

College Students and Kentucky Miners—Joseph Daniel McGoldrick — 363

The Wisconsin Alumni Research Foundation—Grant M. Hyde — 365

Renaissance Custom Revived—William Gleason — 366

The Library in the Crisis—Carl H. Milam — 367

Joseph Jay Hodupp, Jr. — 370

Three Prominent Athletes — 370

Institute on Near Eastern Affairs—William T. Hastings — 370

Summer Schools in Italy — 372

Higher Education in Czechoslovakia—Joseph S. Roucek — 373

Advanced Surgery Found Among Indians—Ales Hrdlicka — 374

The Transportation Library — 376

Cooperative Research—J. Townsend Russell — 376

A Handbook of Scholarships and Fellowships — 376

Discussion

Agrees with Woodbridge, but—— —Gregory D. Walcott — 377

Scholars Classified—Telling the Beaver. *A Poem*—Arthur Guiterman — 378

Phi Beta Kappa Keys for Engineers—J. A. L. Waddell — 379

Phi Beta Kappa Authors — 380

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John Marshall

JAMES TRUSLOW ADAMS

WITH the exception of Washington, without whose character the revolutionary movement could not have been held together long enough to achieve final success, it is probable that the personality of Marshall has exerted a more potent influence upon American life and institutions than that of any other single individual. This influence was directed chiefly toward the triple, and fundamental, relation between the judicial, executive, and legislative branches of the government, and toward the interpretation and development of the Constitution.

Until 1800, Marshall had had the sort of career which a rising Virginia lawyer of the time might have been expected to have. Born September 24, 1755, and not yet of age when the Declaration of Independence was proclaimed, he became a Captain in the military forces in the Revolution. With a good education but without university training or degree, he was admitted to the bar; served in the Virginia Legislature; and was a member of the Convention called to ratify the Federal Constitution. Refusing the Attorney-Generalship of the United States in 1795 and the post of Minister to France in 1796, he was elected Representative to Congress in 1799. On June 6 of the next year, however, John Adams made him Secretary of State, and appointed him Chief Justice of the Supreme Court on January 31, 1801. As he served as Secretary until the end of Adams's administration, March 4, he thus held simultaneously the highest position in the Cabinet while presiding over the Court.

He was then forty-five years of age, and his attitude on some of the main problems of government was already fixed. As in the case of Washington, Madison, Hamilton, and most of the other leaders of opinion, the lawlessness attending the Revolution, and the fears evoked by Shays's Rebellion in Massachusetts, had given Marshall a deep mistrust of democracy. Jefferson escaped a certain amount of change in heart largely from the fact that he spent a considerable part of those years of mob violence in France. At the time of Shays's Rebellion Marshall was only thirty-two but he wrote, "I fear, and

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there is no opinion more degrading to the dignity of man, that those have truth on their side who say that man is incapable of governing himself." This view became more set as Marshall advanced in age, and we find his laudatory biographer, Beveridge, using successively as his four volumes proceed, such expressions with regard to the Chief Justice's lack of faith in the people, as the strength "of religious convictions," "rock-like conservatism," "cold reaction." Combined with this fundamental belief as to the need and nature of government, Marshall possessed one of the most profound minds as a constitutional lawyer "of modern Europe or ancient Rome."

Such was the man whom John Adams placed on the Supreme Court bench at its head, where he was to remain for thirty-four years, until his death, July 6, 1835. Until Marshall took the oath of office, it seemed as though the Court, of the three branches of government, had alone failed. John Jay, after resigning in 1795, had declined a reappointment on the ground that he was convinced from experience that the Court could never acquire sufficient weight and dignity to make it an important part of the government. It was one of the most valuable of Marshall's services that, solely by the force of his own mind and character, he gave that weight to the Court which has made it the most influential judicial body in the world.

This service was entwined with his other one of interpreting and developing the Constitution. Had it not been for the power of interpreting, the Court would never have attained to its position as an equal, and in some respects a supreme, branch of the government; and had it not been for the power of Marshall's mind and character, the Court would not have attained the power of interpretation.

In his thirty-four years of service, he handed down forty-four or more opinions directly involving constitutional construction, and in only one of these was Marshall ever found on the minority side. Four of these cases stand as great landmarks in our history, political and social as well as legal: those of Marbury vs. Madison, Cohens vs. Virginia, M'Culloch vs. Maryland, and Gibbons vs. Ogden. Speaking without technical precision, the first of these decided that it was the duty of the Court to disregard any Acts of the Federal or state legislatures which it decided were contrary to the Constitution. The second gave the Supreme Court jurisdiction over all cases appealed from a state court if the law under which conviction had been ob-

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tained was alleged to be unconstitutional. The third laid down that although the Federal Government was one of delegated powers, it had wide latitude in the choice of means by which those powers might be exercised. The fourth held that the power to regulate interstate and foreign commerce was constitutionally within the sphere of Congress, the word commerce including the *means* by which mere exchange of goods was carried on, and that, in such regulation, a state law contravening an Act of Congress would be of no effect.

Briefly, Marshall's theory was that, first, the Federal Government was one of delegated powers only, but, second, that once the public had granted a power, its exercise must be construed with the utmost liberality. To a very large extent, the history of American thought and action is the history of the contest between those men, parties, and sections which severally agreed or disagreed with Marshall's broad interpretation of the theory of powers.

Bryce's appraisal of Marshall's services in interpreting the Constitution have been quoted so often as to be almost hackneyed. "The Constitution seemed not so much to rise under his hands to its full stature," wrote the English analyst of democracy, "as to be gradually unveiled by him till it stood revealed in the harmonious perfection of the form which its framers had designed." We may, however, question whether the form the Constitution took under Marshall's moulding influence was so certainly that designed by its framers. It was assuredly not the form which many of them had contemplated or would have approved.

The form it took, nevertheless, was the form most consonant with the developing needs of the age and nation. Marshall not only gave a flexibility to the written document which it would never have attained had the United States Supreme Court indulged in the narrow literalism of the English legal opinion of the day, but in strengthening the powers of the central government at the expense of the states, he gave to the former that ability to cope with the insistent problems of the nationalizing of all parts of American life which flowed inevitably from the economic tendencies of the whole century to follow.

It is impossible to think any longer of the economic and political life of our people principally in terms of states. To attempt to carry on our life on those terms would be as impossible as to change the gauge of all our railway lines at every state boundary, as was done in

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Australia before her separate states were united in the present Commonwealth. Just as the unit and scope of business has become national, so it was inevitable that if the Constitution were to remain workable under twentieth century conditions, the powers, express or implied, of the Federal Government, would have to become supreme over state rights. The Civil War was merely the bloody political contest which marked the crisis in the struggle between Marshall and evolving economic conditions on the one hand and his opponents and a sectional economics on the other.

The work of Marshall, although based to some extent, in his own time, on his opposition to the democratic idea, is not necessarily inimical to it. It is clear that in a nation which is economically a unit, the powers of government cannot be divided into forty-eight distinct and local legislatures. That much democracy and state rights must concede. Just as the unit of our life has become national, democracy will have to learn to operate as well through a national government as it did a century ago in town meeting or in state. The nation's life is based on national economics. In such a condition, from which there is no turning back, John Marshall's interpretation is the only workable one of the Constitution. That interpretation in its fundamental aspects must stand, whatever it may do to democracy.

It may be noted that, as the economic base of society in the twentieth century has become world-wide as it became nation-wide in the nineteenth, national rights may have to go the way of state rights. Marshall's interpretation was historically irresistible, not because it was juristically correct, if it was so at all points, but because it was in line with the economic development of society. There seems as little prospect now of turning back from a world economics as there was fifty years ago of stopping the evolution in America from local to national economics. If that proves to be the case, it may be that the ideas of another Southerner, Woodrow Wilson, may prove eventually to be as irresistible, whether we like them or not, as were those of Marshall. It is rather odd that the two men who fought and wrought for the larger political unit, Marshall for a strong Federal Government, and Wilson for a League of Nations, should both have come from the section of America most notable for maintaining as far as possible the independence of the smaller units. Finally economics, not politics, will decide the issue, for Wilson as it did for Marshall.

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George Washington and Political Parties

MURRAY SEASONGOOD
President, National Municipal League

"I AM no party man myself," wrote George Washington to Jefferson in 1796, and the farewell address contains the following (with parenthetical emendations by Hamilton):

I have already intimated to you the danger of Parties in the State, with particular reference to the founding of them on Geographical discriminations. Let me now take a more comprehensive view, and warn you in the most solemn manner against the baneful effects of the Spirit of Party, generally.

This Spirit, unfortunately, is inseparable from [our] nature, having its root in the strongest passions of the [human] mind. It exists under different shapes in all Governments, more or less stifled, controuled, or repressed; but in those of the popular form it is seen in its greatest rankness, and it is truly their worst enemy.

The disorders and miseries, which result, gradually incline the minds of men to seek security and repose in the absolute power of an Individual; and sooner or later the chief of some prevailing faction, more able or more fortunate than his competitors, turns this disposition to the purposes of his own elevation, on the ruins of Public Liberty.

There is an opinion that parties in free countries are useful checks upon the Administration of the Government, and serve to keep alive the Spirit of Liberty. This within certain limits is probably true—and in Governments of a Monarchical cast, Patriotism may look with indulgence, if not with favour, upon the spirit of party. But in those of the popular character, in Governments purely elective, it is a spirit not to be encouraged. From their natural tendency, it is certain there will always be enough of that spirit for every salutary purpose,—and there being constant danger of excess, the effort ought to be, by force of public opinion, to mitigate and assuage it. A fire not to be quenched; it demands a uniform vigilance to prevent its bursting into a flame, lest, [instead of warming, it should] consume.

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John Marshall said of Washington:

> No man has ever appeared upon the theater of public action, whose integrity was more incorruptible, or whose principles were more perfectly free from the contamination of those selfish and unworthy passions, which find their nourishment in the conflicts of party.

Nevertheless, Washington suffered most bitterly from the conflicts of the two parties, the Federal, represented by Hamilton, and the Republican, represented by Jefferson, even though both leaders were in his Cabinet. When he retired from public life, Andrew Jackson and some ten or twelve others voted in the House of Representatives against a resolution of commendation of his services, and his native state, Virginia, passed a resolution, after bitter debate, and notwithstanding Marshall's efforts for a more appreciative attitude, in the coldest, most formal, and restrained verbiage.

Are Washington's animadversions on the party system borne out by its subsequent history in this country? Most certainly, they are! First, party government has debased the administration of the large cities of this country. In 1790, Philadelphia, the largest city in the country, had approximately 60,000 people! New York 33,000; Boston 18,000; Charleston 16,000; and Baltimore 14,000; but now our country is predominantly urban and therefore corrupt party governments in the cities affect the whole country. That autocratic power in an individual which Washington feared as a result of party government has, happily, not materialized in our national government, but it has eventuated in the large cities of the country. Jefferson, in the early years of the American Republic, predicted, as did De Tocqueville, that the most serious difficulties in democratic government would be encountered whenever large cities developed. The "bossism and debased government of the cities of this country, which have been the greatest blot on the Republic, are directly traceable to the party system which has led to confusion of local and national issues, and national support for local gangs."

Judge Samuel Seabury, in a recent address at Cincinnati, well stated the matter as follows:

> The people of the whole country pay a stupendous price for tolerating partisan municipal politics. It is in the great cities of the country that the political machines exist. These machines are the source of political corrup-

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tion not only in the localities where they exist, but they contaminate our state and national life as well. Municipal government, therefore, affects not only those who dwell within the cities, but the people of the whole nation. Indeed, it is not too much to say that our municipal local governments affect the future of democracy itself.

Bryce, in his *Modern Democracies*, speaking of Tammany Hall, says:

"It came to be practically supreme in the Democratic party in the city, as well as the mainstay of that party in New York State, being therewith also a power in the national Democratic convention, since the vote of New York State often turns the scale in presidential elections."

Just as the local Republican machine in Philadelphia has had a profound effect and influence upon the State and the nation, to its great disadvantage, so in national conventions and in the national sphere of influence Tammany Hall exerts a sinister influence.

Thus it is evident that the people of the whole country have a very direct interest in promoting the growth of good municipal government. This fact is far from being appreciated. The view is general that the leaders of the rest of the country may say to municipalities controlled by such machines: "We have no concern with what you do; we wash our hands of the situation which you have created." The peoples of the nation cannot, however, so easily rid themselves of the abuses existing in municipal government. The power which the local machine wins by virtue of its local domination enables it in a very direct way to affect national policies and to thwart national hopes and lower national standards.

The result is that the Federal government habitually cooperates with the local political gangs. The federal local offices, such as that of the Postmaster, United States Attorney, Collector of Internal Revenue, and Marshal, are frequently manned by adherents of the local machine. The same is true of the local state offices, as, for instance, Deputy State Supervisors of Election, Highway Department Engineers, Assistant Attorney-General, and those employed by them, when the local gang and state officials belong to the same national party. Hence it sometimes results that when reform or independent elements succeed in establishing good government in a city predominantly of one national party, their aspirations for honest and efficient administration will be less hampered if the governor or president represents another party.

Many of the local gangs obtained a considerable amount of their vote and campaign funds by close alliance with crime. Especially, but not exclusively, local police courts controlled by the boss or party

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workers are used for this end. Election frauds are practiced with impunity, since assurances are given that the local prosecutor and judges will protect those participating in them. The sole purpose of the local gangs is to multiply offices, jobs, and contracts. Hence so-called party government has vastly increased the burden of expense borne by the citizen and has jeopardized his security.

The next great evil of the party system as practiced in this country is that it leads to abuse of the appointing party. In many instances, the appointment is only nominally by the official supposed to make the appointment. The recommendations come almost exclusively from the local organizations and often amount to the appointment itself. By the party system as practiced for many years, the senators, if of the same party as the president, make the recommendation. They, in turn, get the recommendation from the local political machine. The recent appointment of Judge Cardozo to the Supreme Court at once occurs to the mind as contradiction of, or at least an exception to, the rule just stated. But, by strange irony, the best appointment that President Hoover, a Republican, has been able to make was made possible by the fact that in the appointment of Justices of the Supreme Court, the rule of "Senatorial courtesy" does not prevail to the extent to which it exists in connection with local appointments such as District Judge and United States Attorney. Furthermore, both senators from New York are Democrats. If one or both had been Republicans it is a matter of speculation whether Chief Judge Cardozo would now be a Justice of the Supreme Court of the United States. The best proof that the recommendation is, in fact, an appointment is that if the senators happen to be of the opposite party from the president, senatorial courtesy does not imperatively require that he consult with them relative to an appointment in their state. The Governor of New York removes the Tammany sheriff for failure to disclose sources of a huge income additional to his moderate salary income, but appoints as his successor a sheriff thoroughly acceptable to Tammany. The Governor certainly did not select that man because of any outstanding suitability for the position, but, doubtless, because the appointee had the approval and recommendation of the New York City Democratic machine.

When the duty of appointment is given to a judge, the intent is that he will exercise this important function in a judicial manner,

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using his best judgment. In practice, however, appointment by judges is very frequently solely on the recommendation of the controlling political party and without any concealment that it is so. Instead of regarding the suggestion, if unasked, as a contempt of court, the judge may make the appointment as soon as the recommendation is received from the political machine.

The growth and effective working of the merit system are seriously impaired by so-called party politics. Here, again, the appointing power is "assisted" in his choice, not by the merits of the first three as shown in an examination, but by the degree of political regularity of the candidates.

Recently we have had the spectacle of the Postmaster General, whose reign as boss of the City of Toledo is not too far back in history not to be well remembered, publicly adjuring the first and second class postmasters of the country to be mindful of the source of their appointments and to be active and vigorous in political support. We have become accustomed in Hamilton County, Ohio, to the spectacle of our local judges meeting their bailiffs for the first time when the bailiff comes in and announces that he is such, and of our judges acting as chairmen or members of political committees, and making political speeches under the insistence or approval of the local representatives of the national parties. Naturally, the loyalty of the appointee, under such conditions, is to the political machine which caused his appointment, rather than to the position itself or to the nominal appointing power.

As effective "suggestions" or "recommendations" come from the political machine, it follows that the range of possible appointees is limited to those included in, or favorable to, the local rings and, therefore, outsiders who might be the best qualified for the position have practically no chance.

All this is a direct result of the party system as practiced in our country. A certain number of well-meaning persons, however, will tell you that, admitting the defects in our party system, parties are absolutely essential for good government and must be allowed to flourish in all their rankness and corruptness in the cities, because, although their roots are imbedded in filth, the party flower is useful. This position is utterly without foundation in fact. England furnishes the refutation. The party system there is older than ours, but local

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offices are filled by the merit system, not through party patronage.

Why should national parties exist, unless it be for the discussion of principles and not jobs? Yet, if one were to ask what are the principles of the Republican or Democratic national parties on the vital questions now calling for solution one could get no answer. I challenge any one to say what is the Democratic or Republican position on each of the following: prohibition, American membership in the League of Nations or the World Court, cancellation of foreign debts, and the tariff. You will find adherents of opposite views on each of these national questions in both of the parties, and no definite authoritative promulgation of party principles with respect to any of them. Formerly, one could say that, in a general way, depending upon the political complexion of the observer, Republicans were conservative or reactionary and Democrats liberal or radical. But with Norris, La-Follette, Borah, and Johnson in the list of leading Republican senators, and LaGuardia, Swing of California, and others in the House, can even such very general differentiation be maintained?

I pass on the liability side, with brief mention, the needlessly bitter antagonism created by the party system. You remember the little English boy who asked his Tory mother whether Whigs were born wicked or became so afterwards, and her famous reply: "They were born wicked and get worse steadily." A friend told me that, before he could read, his uncle would show him pictures of pirates making an unfortunate walk the plank, or of Indians scalping a captured warrior, and would say, "You see those men and what they are doing? Those are Republicans."

Apparently, to be a thoroughly effective party man, one must hate those of opposite belief, although the hookup of the two gangs in the cities is notorious. The lesser party wishes, at least, to get the loser's share, and both make common cause against the independent citizen. Why is it that in times of emergency the party system may break down and coalition governments function or laws be passed on a non-partisan basis; as, for example, in war periods, in England recently, and in the United States in the case of the revenue bill? If it is insisted that these are not political matters, why are they such except in times of extraordinary stress! Why is the political opinion of a judge and his election to office a political matter? Yet, frequently, the dominant political machine will insist that judges be

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elected on a partisan basis, not merely in the hopes of having a friend to the organization in the judge, but because of the patronage incident to bailiffs, messengers, defense of indigent prisoners, stenographers, clerks, and other satellites. Can anything be more humiliating than that a judge, expected to stand for office on a non-partisan ballot, must submit his name at a party primary and agree, as the statutes of Ohio require, that, if elected, he will support the state and national platforms of his party, not knowing when he makes his declaration what such platforms will be or what matters involving such platforms may come before him in his judicial capacity?

Finally, these gangs, far from stimulating people to vote, cause them to refrain in disgust from exercising the franchise. According to President Thompson of the American Bar Association, not fifty per cent of the adult population of this country habitually vote, and in St. Louis last year only fifty-two per cent of those registered voted. As a result of such facts President Thompson observes: "When it comes to nominations and parties, the layman virtually has abdicated the field."

Hence, we must conclude that the warnings of Washington were prophetic and that with the development of our country and particularly its cities, the party system, as it has been practiced, has been extremely deleterious.

If we truly wish to honor the memory of one of the greatest men, let us so regenerate the party system in this country that it may be what it should be, a medium for the discussion of principles; that this discussion will not be shunted aside to give place for unseemly scramble for jobs and illicit favors; that persons of independent thought and idealism will not be regarded as Ishmaels and deprived of the opportunity of serving their community or country on an unselfish and highminded basis; and that the great mass of our people, disgusted and standing apart, will reassume the duty of expressing, by their vote, opinions on questions of vital concern, locally and nationally.

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The Road to Weimar

BLISS PERRY

Professor of English Literature, Harvard University

"MAKE Weimar your home," said Goethe to his young friend Eckermann in 1823. "Stay with us, and not only this winter, but make Weimar your home. From thence proceed highways to all quarters of the globe. In summer you can travel. . . . I have lived there fifty years; and where have I not been? But I was always glad to return to Weimar."

Today, on the one-hundredth anniversary of the poet's death, we too are glad to return for an hour to Weimar, to pay honor to the rich mind that has made so many thinking men its debtor, to tread again in imagination those highways that lead to and from the friendly little city, and particularly to recall the names of those first pilgrims of our own race who sought out Goethe in his home. And while we are celebrating the pioneers who first blazed the trail to the treasures of German literature, we must not forget the long line of teachers, many of them brilliant and all of them devoted, whose task it has been to demonstrate the truism that literary evaluations of a foreign writer depend ultimately upon an accurate knowledge of that writer's language, and that all fine talk about Goethe or Dante or Molière is critically worthless until the spade-work of grammar and dictionary has been done.

I say "critically" worthless instead of wholly worthless, because the actual discovery of Goethe in England and America was due in a large measure to enthusiastic perception of his genius through the medium of wretched translations. There is a certain class of writers whose ideas sweep over the surface and sometimes move the depths of human society as if linguistic barriers and national boundaries did not exist. And Goethe himself is a writer whose reputation compels us to distinguish between that accurate critical assessment possible to university scholars, and the uncritical awareness of genius possible to the man in the street. Each of these influences has been a factor in the spread of Goethe's fame.

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A clear though threadbare illustration of this point is the vogue of *Werther* in France, England, and America. This amazing book was published in 1774, when Goethe was twenty-five. It was written in four weeks, as the record of a passionate experience. It cleansed its author's bosom of some perilous stuff, and he says that he looked at the book only once for the next fifty years. The story was morbid, excessively sentimental even for that age of sentimentalism, and not a little absurd. But it was written as only a genius can write, and it ran over Europe like a prairie fire. French translations found their way to England, and English versions from the French were soon pouring into the market in London, New York, and Philadelphia. At least nine reprints of three different English translations made their way to this country, to say nothing of a dramatized version and many poems and novels dealing with the story. Now all of these translations, for at least eighty years, were execrable. I have myself, with stubborn pedagogic persistence, compelled hundreds of students to read *Werther*, as a document essential to their understanding of eighteenth century fiction; but as they were allowed to read it in any language they liked, and few of them could read German easily, what fantastic impressions those boys must have received! In Longfellow's diary, written at Heidelberg on December 29, 1835, is this passage: "Read *The Sorrows of Werther* in German. The language and imagery are beautiful. In England and America the book is sneered at. I think it is not understood."

"It is not understood"; there speaks the clear, critical intelligence of a young scholar. Yet Longfellow was writing three years after Goethe's death and nearly sixty years after the publication of *Werther*. There could be no better instance of the distinction between the judgment of scholarship and the uncritical popular response to a work of genius. I doubt that there were more than a dozen British readers, earlier than Carlyle, capable of passing a competent judgment upon a masterpiece of German literature. But there were countless readers, quite innocent of the German language, who felt that the author of *Werther* was speaking to their hearts. Napoleon, as everyone knows, read the book seven times, took it with him to Egypt—as afterwards to St. Helena—and when he met Goethe after the battle of Jena wanted to talk about *Werther* before anything else. It would have been a bold man who could have said to Napoleon or

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Byron or Shelley: "Your admiration of Goethe is ignorant, for you know so little of the language in which he wrote." Genius has a way of its own in speaking to genius, and it also has a way of its own in addressing the emotions of the illiterate or the semi-literate. Scholarship has guarded and confirmed the fame of Shakespeare, but it did not light the torch.

Nevertheless the obstacles to the spread of that world-literature which Goethe thought would one day supersede national literatures are formidable even now; and toward the close of the eighteenth century, when Goethe's own name began to be heard in Great Britain, they may well have seemed insuperable. Three generations of Hanoverian Kings had failed to stimulate any British enthusiasm for Germany. As a political entity in the modern sense, there was no Germany. Teutonic art and literature remained to most Englishmen as unknown as in the days of Erasmus. It never seems to have occurred to such typical bookmen as Hume, Johnson, or Gibbon that there was anything worth reading in "High Dutch." When Goethe left the University of Strassburg in his twenty-second year, he had already read far more widely in English literature than any Englishman of that day had read in German literature. Well-to-do British travelers, making "the grand tour," headed straight for Paris. European culture was to them synonymous with the French culture of the Old Régime.

The French Revolution broke the spell, and even before the Revolution scholars can now trace the beginnings of some curiosity in England about German books. An obscure group of German exiles in London began to give lessons in their mother tongue, chiefly, it is supposed, to commercial travelers. English translations of certain works appealing to a Bible-reading public, like Gessner's *Death of Abel* and Klopstock's *Messiah*, appeared on the London book-stalls. Such poems were supposed to be in the Miltonic tradition. But translations from Gellert and Wieland and Lessing were also issued, and when *Werther* began its extraordinary conquest of England in 1779, five years after its first publication in Germany, a new era was at hand.

It has become a pleasant fashion for students of comparative literature to date the new British interest in German writings from that

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famous lecture on the German Drama delivered by Henry Mackenzie before the Royal Society of Edinburgh in April, 1788. The irony of the situation is that the delightful "Harry" Mackenzie—then forty-three and the well-known author of *The Man of Feeling*—apparently knew at that time not a word of German. He drew all of his material from a couple of French compilations, which included, among other dramas, three of Goethe's early plays. But Mackenzie's enthusiasm proved not only contagious but epoch-making, for among his hearers was a law-student of seventeen named Walter Scott. Both Scott and Lockhart have told the story of the club of half a dozen law-students who straightway secured a teacher, Dr. Willich, and began the study of German. They were all bored with the assigned text, Gessner's *Death of Abel*, with the result that each student chose his own material for translation. Scott confesses that he neglected grammar and dictionary, but as he had keen intellectual curiosity and had already dabbled in Anglo-Saxon and the Norse sagas, he tore his way somehow into German poetry, translated Bürger's *Lenore* between supper and daybreak, and after many other experiments, ended by the glorious discovery and translation of Goethe's *Götz von Berlichingen*. It was this experience with German literature that revealed to Scott that he was himself a poet and romancer. Without suspecting it, he had turned a fresh page in European literary history. We are sometimes reminded in doctoral dissertation that Scott made queer blunders in translation; but we are seldom reminded that he had three hundred German books in his Abbotsford library, that he utilized them for many a passage in his poems and novels, and that to the day of his death he honored Goethe above all contemporary men of letters.

Nevertheless, we must remember that that whole decade of English readers of German drama and fiction during the 1790's was almost totally ignorant of Goethe's real nature and influence. They knew nothing of the successive phases of his development. They identified him as the author of *Werther*, a book which he had outgrown as soon as he had written it. They were not aware that its passionate sentimentalism would one day be traced back through Rousseau to their own novelist Richardson. They were looking to Germany for something new and strange, for thrills and shudders and mysteries, ghosts and devils, Tales of Wonder and Tales of Terror. They felt

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in a vague fashion that the Storm and Stress literature of Germany was related to the sultry, ominous atmosphere of the Revolution. Southey tells us that he left Westminster School in 1792 "in a perilous state, a heart full of poetry and feeling, a head full of Rousseau and *Werther*." Southey's friend Coleridge picked up a translation of Schiller's *Robbers* at Cambridge on a November midnight in 1794. Before dawn he writes to Southey: "I had read, chill and trembling, when I came to the part where the Moor fixes a pistol over the robbers who are asleep. I could read no more. My God, Southey, who is this Schiller, this convulser of the heart? I tremble like an aspen leaf. Upon my soul, I write to you because I am frightened. . . . Why have we ever called Milton sublime?"

Now Coleridge, always an expert borrower of books, might conceivably have picked up in Cambridge William Taylor's translation of Goethe's *Iphigenie*, published the year before, and fed his soul on pure beauty. But he was not seeking spiritual edification on that November midnight; he was craving the Romantic luxury of having chills run up and down his spine.

This taste for sensationalism from Germany which marked the 1790's, and culminated in the craze for Kotzebue in 1799, was typified by the fantastic, goggle-eyed, elfin figure of M. G. Lewis, known to his friends as "Monk" Lewis, after his romance of that name, published in 1795 when he was twenty. He had studied German at Weimar at seventeen, and was apparently the first English man of letters to meet Goethe; though not the first to find the road to Weimar, for William Taylor of Norwich had gone thither ten years earlier, in 1782. Lewis's personal preference and influence was always for the bizarre, but it was he, after all, as a rich and fashionable Londoner, who helped Scott to find a publisher for the translation of *Götz von Berlichingen*, and it was Lewis who, as a guest of Byron at Lake Geneva in 1816, fascinated Byron and Shelley by his oral translation of *Faust*. The queer little man had at least his splendid hours!

And William Taylor of Norwich, the first of our company of pilgrims to Weimar, was another eccentric, but we owe him much. Fighting single-handed for a whole generation, he was the only Englishman before Carlyle to interpret German literature intelligently in the reviews. His identified articles number 1,750, all of them for-

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gotten now. Yet no one who has read it can forget his young pupil George Borrow's picture of him in the twenty-third chapter of *Lavengro*, where the indefatigable old scholar pulls steadily at his long clay pipe, confesses that he is "no admirer either of *Werther* or his author," that his own life "upon the whole, I consider a failure," but presses upon his pupil three things: "that the decencies and gentlenesses should not be lost sight of," "that there is always some eye upon us," and "the third thing which I would wish to press upon you"—"Yes," said the youth, eagerly bending forward. "Is"—and here the elderly individual laid down his pipe upon the table—"that it will be as well to go on improving yourself in German!"

Would that all of the English Romantic poets had hearkened to that counsel! Wordsworth and Coleridge, it is true, went over to Germany in September, 1798. This was the year of the *Lyrical Ballads*, and of the clever satires upon German plays in the *Anti-Jacobin*. Wordsworth, accompanied by his sister, passed a cold and solitary winter in Goslar, and all that he brought back was a few incomparable English lyrics. Coleridge went to Ratzeburg and thence to Göttingen, where he talked endlessly, claimed that he was gathering materials for a life of Lessing, but was apparently more interested for the moment in philosophy than in literature. He added something to his slender stock of German, and produced after his return an acceptable translation of *Wallenstein*, in which he thought he had improved upon Schiller. Neither Wordsworth nor Coleridge, at that time or later, ever felt the real influence of Goethe.

It was far otherwise with Henry Crabb Robinson, an amiable and foot-loose enthusiast, who, urged by Taylor, went to Germany in 1800 because he did not know what to do with himself in England, and stayed five years. He studied at Jena, dined with Goethe in Weimar, and in many later visits to Germany became an intimate in Goethe's household. It was Goethe's daughter-in-law who nicknamed Robinson "the literary missionary," a phrase which delighted the poet. Like many an English missionary to the heathen, Robinson held stubbornly to his natural prejudices. But his literary creed, throughout a very long life, had two articles only: Goethe and Wordsworth—"the most irreligious and the most religious of poets," as the missionary remarked cheerfully but not very pro-

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foundly in his *Diary*. In 1804 at Weimar he helped Madame de Staël in collecting materials for her book on Germany, when both Goethe and Schiller were fighting shy of the lady, and nine years later, in London, he persuaded Murray to give her fifteen hundred guineas for the English translation of that celebrated volume.

Yet Robinson had as little luck in reading and expounding Wordsworth to his learned German friends as he did in preaching the gospel according to Goethe to his friends in England. Southey and Wordsworth were not interested. Lamb was whimsically, incorrigibly prejudiced against everything German. On three or four occasions Robinson did kindle a transient glow in Coleridge, particularly after 1808 over the First Part of *Faust*. Coleridge averred that he thought of writing a new *Faust* himself, and he might have yielded to Robinson's urging and translated Goethe's *Faust* save for the awkward fact that Murray offered only one hundred pounds, a sum which Coleridge considered an insult. But he was interested in Goethe's theory of colors as set forth in the *Farbenlehre*, and assured Robinson that he had long since made the same discovery. Coleridge was too fine a critic not to perceive the fascination of the famous Hamlet criticism in *Wilhelm Meister*. He went about London talking of Hamlet's tragic inability to fulfil the task laid upon him, and asserting that "no intellect is valuable if it draws us from action." "This is a satire upon himself," said someone to Robinson. "No," replied Robinson, "it is an elegy."

The "lack of moral principle" which Coleridge (of all men) reprobated in Goethe, and particularly the easy sexual morality of the Old Régime, seems to have troubled Byron and Shelley very slightly. Both men had studied a little German in school and promptly forgotten it, but after 1815 each poet came to recognize that Goethe revealed to him a new horizon. Shelley, who had far more of a gift for languages than Byron, set himself to master German, and in the closing years of his brief life, Goethe more and more preoccupied his mind. His translations of two passages from *Faust* are not without a radiant beauty.

Byron envied Shelley this ability to read German. "I would give the world," he said at Pisa, "to read *Faust* in the original"; and—less extravagantly—he offered a hundred pounds to any person who would translate *Dichtung und Wahrheit* for him. Yet this was the

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same Byron who in the midst of dissipation at Venice found that his "mind wanted something craggy to break upon" and "studied daily, at an Armenian monastery, the Armenian language." One would have thought that the German language was quite craggy enough for Byron's admirable purpose. In spite of his imperfect apprehension of *Faust*, memories of that poem color Byron's *Manfred* and *Cain*. Goethe, whose admiration for Byron was known all over Europe, wrote a flattering review of *Manfred*. Byron responded in the grand style in his dedications to Goethe of *Marino Faliero*, *Werner*, and *Sardanapalus*. A few lines must suffice: "To the illustrious Goethe, a stranger presumes to offer the homage of a literary vassal to his liege lord, the first of existing writers, who has created the literature of his own country, and illustrated that of Europe. The unworthy production which the author ventures to inscribe to him is entitled *Sardanapalus*."

To appreciate Goethe's pleasure in the tributes from English and American admirers during the 1820's, we must remember that he was now over seventy, that for fifty years he had known enmity and detraction, even in Weimar, and that he had long since abandoned any thought of popularity. The new currents in German literature seemed to be running against him. "My works cannot be popular," he said to Eckermann in 1828, after Carlyle had been praising him in the *Foreign Review:* "They are not written for the multitude, but only for individuals who desire something congenial, and whose aims are like my own." But what heartening messages keep coming to this disillusioned veteran, and how gracious are his replies! Byron writes him just before sailing for Greece. Thomas and Jane Carlyle send exalted epistles from Craigenputtock, and get "celestial" answers from Weimar. Goethe writes in courtly fashion to Sir Walter Scott in 1827, and receives an even more glorious letter in return. And how many Englishmen and Americans were now eager to visit Weimar! Byron had written in that farewell letter: "I am returning to Greece to see if I can be of any little use there; if ever I come back, I will pay a visit to Weimar." The Carlyles were held back only by poverty. Young Thackeray, who had at that time plenty of money and was rapidly getting rid of it, spent happy months at Weimar in 1830; and the gay little city, disguised as "Pumpernickel," is the scene of the final chapters of *Vanity Fair*. Americans

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were now coming in a steady stream. But alas for the stricken Sir Walter Scott, the one man in Europe, save Byron, whom the aged Goethe would have most liked to welcome. Sir Walter, already a dying man, was in Naples in March, 1832, hoping to come home by way of Weimar. "When he got the news of Goethe's death," wrote Lockhart, "all his fine dreams of recovery seemed to vanish at once." "Alas for Goethe!" exclaimed Scott; "but he at least died at home. Let us to Abbotsford." These great gentlemen of a century ago seem like galleons passing upon the high seas, dipping their flags in stately salute before they vanish below the horizon.

There is only one thing still finer, in this matter of relationship with foreign writers. And that finer thing—though less spectacular than the great gestures of amity—is the individual mind that sets itself deliberately to the task of sympathetic and scholarly comprehension of a foreign author; a mind that wrestles with the strange tongue and the strange ideas and moods and forms until their last secret is yielded. That is what hundreds of Americans, whose very names are unknown outside of their colleges, are striving to do today; and they appreciate, if other men do not, the service rendered to German literature and to Goethe in particular by Thomas Carlyle. During the decade preceding Goethe's death, it was Carlyle, far more than any other man, who interpreted Goethe to English and American readers.

Beginning his solitary study of German in 1819, in order to read Werner's *Mineralogy*, obtaining a grammar and dictionary with the greatest difficulty, without the philological gifts of a William Taylor or the knowledge of the personal and social background of German letters possessed by Crabb Robinson, Carlyle hammered away like a stone-mason's true son. By 1822 he was publishing his first essay on *Faust;* by 1824 he had finished his first book, that *Life of Schiller* which won Goethe's enthusiastic praise. He translates *Wilhelm Meister* and many volumes of German romances. He studies not only Lessing and Herder and Richter and Novalis, but also the *Nibelungen Lied* and *Reinecke Fuchs*. Instead of merely satirizing the Storm and Stress movement, he explains it. He tries to grasp the books of the hour in their relation to the whole European movement: his essays on Diderot and Voltaire, on Burns and Scott, are written

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in the very period when he is proclaiming Goethe as the first man of a new age—"a world-changer and benignant spiritual revolutionist." Alone in England—as far as I am aware—Carlyle prophesies after reading *Helena* in 1828, three years before the Second Part of *Faust* was finished, that its hero "will not end in the madness of horror, but in Peace grounded on better Knowledge."

I am not claiming that Carlyle's various essays on Goethe say the last word. Writing on *Goethe's Death*, he admits that a century must elapse before any full estimate is possible. And now that the century has passed, many a lover of Goethe may feel that the Scotchman failed to do complete justice to Goethe as one of the supreme lyric poets and as a prince among literary critics. We may wish that Carlyle had written more about *Tasso* and *Iphigenie*, and of Goethe's multitudinous activities in those fields of science and art for which Carlyle himself cared little. How characteristic of Carlyle was his repeated and perhaps wilful misquotation of the famous lines in Goethe's *Generalbeichte:*

Im Ganzen, Guten, Schönen
Resolut zu leben.

Carlyle makes Goethe say:

Im Ganzen, Guten, Wahren.

But granted that Carlyle cared more for the true than for the beautiful, he nevertheless perceived, as did no Englishman before Matthew Arnold, Goethe's luminous and wide-ranging intelligence, his consummate mastery of the art of life. This faith in Goethe as an ethical teacher is the most significant result of Carlyle's ten years of study of German literature; and it was a faith that swiftly winged its way across the Atlantic.

For we must now turn to the group of Americans who during the fifteen years before Goethe's death, and for ten years thereafter, served as pioneers in making Goethe known in the United States. As a whole, they were a high-minded company; though it is odd to remember that the first notable American to tread the actual road to Weimar was a pilgrim without even a cockle-shell of sanctity—namely, Aaron Burr. The *Private Diary* of this light-hearted and shabby exile records six lively days passed at Weimar in January,

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1810. He took tea with the Baroness von Stein, called on Wieland, Humboldt, and twice on Goethe—who made a laconic entry in his own Diary: "Colonel Burr from North America"—dined with the Grand Duke, lost twenty-eight groschen at whist, had a violent flirtation with the Baroness von Reizenstein, and left Weimar in the gray of the winter morning, none too soon.

No one knows whether Goethe had ever heard of Alexander Hamilton. He had had no interest whatever in the American Revolution, though he was acquainted with Franklin's scientific investigations, and read his *Autobiography*. But after reading Humboldt's book on Mexico in 1807, Goethe developed a marked curiosity about the physical characteristics of the American continent; and as soon as the close of the Napoleonic wars made Europe again accessible to American tourists, he began to receive visitors of quite another type than Aaron Burr.

We all know something of those Argonauts who sailed from Boston in the Waterloo year in search of golden spoil from German universities. George Ticknor was then in his twenty-fourth year; a graduate of Dartmouth already dissatisfied with the law, and dreaming of a career of scholarship. He had borrowed a German grammar in 1814 from his friend Edward Everett, had sent to New Hampshire for a dictionary, and for a German text abstracted from the Athenaeum library, somewhat irregularly, John Quincy Adams's copy of *Werther*, left there for safekeeping while the owner was in Europe. Ticknor succeeded in translating the novel, but the manuscript has disappeared—perhaps not unfortunately. His friend Everett seems to have known little or no German in 1814, but he was reputed in Boston to know everything else. Had he not been valedictorian at Harvard at seventeen, Tutor in Latin at eighteen, at nineteen minister of the Brattle Street Church and author of a five hundred page book in *Defense of Christianity?* Did he not deliver his inaugural address as Professor of Greek Literature at Harvard the day after his twenty-first birthday, and precisely four days before he sailed with George Ticknor for that University of Göttingen which had been so wickedly satirized by the *Anti-Jacobin?*

Ticknor notes that when they left Boston harbor Napoleon was supposed to be safe at Elba, but on reaching Liverpool they learned that the Emperor was again in Paris. The news of Waterloo reached

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them in London, at the height of the season. In fact Ticknor was calling on Byron, who had shown our Americans marked attention, when a messenger burst in with the tidings of Wellington's victory, and Byron exclaimed: "I am d—d sorry for it!" The Reverend Professor Everett seems not to have been present at this interview with his lordship.

It was not until August that the Bostonians reached Göttingen and began to astonish the inhabitants by their assiduity as students. More than a year passed before they visited Weimar in October 1816, with letters of introduction to Goethe. Both Americans recorded their impressions of the poet. Everett thought him "stiff and cold, not to say *gauche* and awkward," and that he "spoke with no interest, on anything." Ticknor, a much closer observer, found Goethe "imposing," "simple" and "elegant" in his manners, that he talked of Lord Byron "with interest and discrimination," and that Goethe's own "genius kindled" as he deplored "the want of extemporary eloquence in Germany." On his return to Göttingen Everett, in spite of his disillusion, wrote an article on *Dichtung und Wahrheit* for the *North American Review* for January, 1817—the first really significant paper on Goethe to appear in any American periodical.

But on November 1, 1816, Everett and Ticknor were joined by Joseph Green Cogswell, a charmer who soon found his way to Goethe's heart. Cogswell was now thirty; an Ipswich boy and a Harvard graduate, who had abandoned the law after the death of his young wife, had taught Latin at Harvard, had traveled widely, and was passionately interested in one of Goethe's favorite subjects, mineralogy. In March, 1817, he took the road to Weimar, but finding that Goethe was in Jena, followed him thither, and presented his letters of introduction in the cabinet of the Society of Mineralogy, of which Goethe was president. Prepared, as Cogswell says, for "a most repulsive reception"—he had been staying with Everett and Ticknor—he found himself in the presence of "a grand and graceful form, worthy of a knight of the days of chivalry." They talked for an hour in French about America, on which topic, says Cogswell, Goethe made "juster and more rational observations" than he had heard from any man in Europe. Then they proceeded to cement their friendship by going over the whole cabinet of minerals. Before long Cogswell is sending Goethe the book on mineralogy just published by

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Professor Parker Cleaveland of Bowdoin, and Goethe is calling his new friend "my dearest."

In the meantime Everett was not idle. He had already begun to buy German books for the Harvard library. In September, 1817, when he took his Ph.D. at Göttingen—the first German Ph.D., he says, to be won by an Englishman or American—he wrote to Goethe a letter of introduction for his friend Theodore Lyman, "a gentleman of one of our first families"; sent by Lyman a copy of Byron's *Lament of Tasso*, and asked Goethe to autograph one of his books for Harvard, and incidentally to autograph Everett's own copy of *Hermann und Dorothea*. Young Theodore Lyman, not to be outdone, gave Goethe Byron's *Manfred*, hot from London; just as, a little later, it was Cogswell who first called Goethe's attention to Byron's *Don Juan*. Queerly enough, in this very month when Lyman and Goethe were talking about *Manfred*, Ticknor was calling on Byron near Venice and talking with him about Goethe.

But it was Cogswell, rather than Everett or Lyman, who scored the triumph of persuading Goethe in 1819 to present the new edition of his *Works*, in twenty volumes, to Harvard University. The books did not actually arrive until March, 1820, after Everett and Ticknor had returned and been teaching in Cambridge nearly a year. The translation of Goethe's autograph letter of presentation, now lost, is supposed to be from Everett's hand: "The above poetical and scientific works are presented to the library of the University of Cambridge in New England, as a mark of deep Interest in its high literary Character and in the successful Zeal it has displayed thro' so long a Course of Years for the promotion of solid and elegant education." President Kirkland was quite equal to the occasion. "The Corporation are highly gratified," he replied, "that the University in Cambridge New England is an object of attention and interest to this celebrated writer, possessing so elevated a rank among the men of genius and literature in Europe. They receive with great satisfaction the donation of his works for the Library, and return him the grateful acknowledgements of the University, for this valuable proof of his regard."

It would be impertinent to raise the question whether the eloquent Kirkland or any member of the Corporation could read a page of Goethe's works. But perhaps they did something better. They had

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sent to Göttingen in 1818, as a student successor to Ticknor, Everett, and Cogswell, "little Bancroft," as Cogswell called him affectionately, a minister's son from Worcester, not quite eighteen, that he might become, in Kirkland's words, "an accomplished philologian and biblical critic, able to expound and defend the Revelation of God." In just ten months the young expounder was preaching in German, and on a walking trip four months later, in October, 1819, he called upon Goethe in Jena and visited his house in Weimar. He informed Goethe that Byron's new poem *Don Juan* "was reported to contain the most splendid exertions of poetical power, mixed with the lowest and most disgraceful indecencies." The expounder was evidently in good form that day, though he did find Goethe's ruffled shirt "not altogether clean" and his boots "of quite an ordinary cut."

Just before Bancroft's return to America in 1822, he was presented to Lord Byron on the quarter deck of the U. S. frigate "Constitution" in Leghorn harbor. On calling at Byron's villa the next morning he found Byron glad to talk about their common friends Ticknor, Everett, and Coolidge, about Washington Irving, and particularly about Goethe, whom Bancroft had visited for the second time in 1821. The call ended with a presentation to a young lady of "beauty almost more than human." "Who was the lady?" Bancroft wrote to his classmate Samuel A. Eliot. "I know not. It was a beautiful apparition, and why attach harsh ideas and harsher words to one who looked so innocent and conversed so purely?" It was the Countess Guiccioli.

Evidently the allowance granted by Dr. Kirkland to "little Bancroft" for four years of European experience had not been spent in vain. After his return he passed one year at Harvard as tutor in Greek, and published in the *North American Review* for October, 1824, an article on Goethe, containing several translations of Goethe's lyrics. This article, which of course was unsigned, was sent to Goethe by G. H. Calvert, a young Harvard man who had been visiting Weimar. It should be remembered that though Goethe usually conversed in French with foreigners who did not speak German, he could read English easily, with a little help from his Webster's Dictionary. Indeed in this very period he was devouring Fenimore Cooper's novels, reading *The Prairie* in five days, *The Pioneers* in three, and *The Last of the Mohicans* in two! His comment on

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Bancroft's article was most amiable: "I could not help smiling when I saw myself reflected in such a far-off republican mirror." In another sentence from the same letter he put his finger unerringly on the chief defect in Bancroft's youthful style: "He managed to conceal his lack of knowledge in certain parts as he tried to round out the whole matter by the use of euphony." Bancroft's later utterances about Goethe grew increasingly harsher in tone. By 1839, in the *Christian Examiner*, he called Goethe dissolute, illiberal, insincere, "without faith in God, in man, or in woman." One who could so misread the poet might better never have read him at all.

In fact it is now clear enough that this first company of American Argonauts brought back from Germany the general methods of philological research, rather than any keen critical insight into contemporary German writers. By 1825 the company was scattered. Ticknor was devoting himself to Spanish. Everett was elected to Congress. Cogswell, as Librarian of Harvard, on a salary of $660, had reorganized the library on the model of Göttingen. "Cogswell has put the library in perfect order," wrote Ticknor bitterly in 1823, "and is now finishing his catalogue of it, but the corporation neither comprehend what he has done, nor respect him enough for his great disinterested labor. Bancroft is making great exertions to teach Greek thoroughly, and succeeds, but is thwarted in every movement by the President." The upshot was that at the end of the college year Cogswell and Bancroft left Cambridge to found their school for boys at Northampton, neither of them dreaming then that Bancroft was to become a famous historian and minister to Germany, and Cogswell the virtual creator of the great Astor Library in New York.

Of all that brilliant company, it seems to me that Cogswell and young Calvert, through their own qualities of heart, had the truest perception of Goethe's character. Calvert's description of Weimar in his *First Years in Europe* is as delightful as the pictures of Weimar drawn later by Thackeray and George Eliot. He had also the honor of writing the first American book about Goethe, although it was not published until 1872, forty years after the poet's death.

Nevertheless, the year 1825 marked an epoch in the study of German literature in this country. Karl Follen came to Cambridge in that year, and the new University of Virginia, under Jefferson's

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influence, was also offering courses in German. Follen, a political exile who had once met Lafayette in Paris, had called upon him in Washington in 1825, and asked his advice about earning a living by teaching German. Lafayette counselled him to try "Cambridge, near Boston, the part of the United States where German literature is most honored." The result was that Follen, with Ticknor's backing, was appointed to an instructorship and then a professorship at Harvard. There is no longer any question as to his nobility of character or his enthusiasm as a teacher of his native tongue. As there were no available textbooks in Cambridge, he prepared a German Reader and a Grammar. Dr. Andrew P. Peabody, who was in Follen's first class, has left in his *Harvard Reminiscences* a charming account of it: "German had never been taught in college before. We were looked upon with very much the amazement with which a class in some obscure tribal dialect in the remotest Orient would now be regarded." But Follen's zeal triumphed over every obstacle. There was by that time, thanks to Everett, a collection of German books in the Harvard library, which had not owned one in 1790. The Athenaeum library, urged on by the success of Follen's private German classes in Boston, also began to purchase German texts, although when Follen visited Moses Stuart at Andover in 1829 he reported that there were more German books in the Andover library than anywhere in the country.

It is true that Follen seems to have cared little for Goethe—thinking him immoral and uninterested in the cause of political freedom. Schiller and Körner were his favorite poets. He lectured on *Faust* at least once in Boston, but there is no record of any lectures on Goethe at Harvard until Longfellow's course in 1837–38. The most tangible evidence of any undergraduate interest in Goethe in the Follen period is J. L. Motley's "exhibition" essay of May, 1831, on "The Genius and Character of Goethe." The seven manuscript pages of this pleasingly boyish production are preserved in the Harvard library. Cogswell, who had taught Motley in the Round Hill School, was so delighted with the essay that he sent a copy to Weimar, where it was read by Goethe's daughter-in-law, and probably by the aged poet himself, now within a few months of his death. Follen's career as a Harvard professor came to a disastrous close in 1835. His anti-slavery activities were disliked by those in authority, and there is some evidence that Mrs. Follen (Eliza Lee Cabot) showed an open

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sympathy with the undergraduates in the "Rebellion" of 1834. This was deeply resented in President Quincy's family. "Her wit and talent fomented the Rebellion," says Eliza Quincy's manuscript *Diary*.

But we must not linger over these academic comedies and tragedies. The essential fact is this: that during Goethe's final years—when after more than half a century of brooding over the problem, he was beginning at seventy-five the Second Part of *Faust* and completing it at eighty-two—a fresh group of young American scholars, unorganized and then almost unknown, were recognizing Goethe as a master. It is true that if one searches merely the newspapers and magazines of 1832, one finds little evidence that Goethe's death made any impression upon the mind of the English and American public. Byron's death in 1824 had caused an emotion which our generation simply cannot comprehend; but Goethe's long day sank quietly to its setting, and there was scarcely a sunset gun. Carlyle, indeed, wrote a brief and noble eulogy, and the faithful Crabb Robinson a series of articles which were buried in the files of the *Monthly Repository*. In our own country there was nothing but a few lines in the newspapers. England was absorbed in the Reform Bill, and America with Jackson's fight against Nullification.

Yet the newspapers never tell the real story of what some men are thinking and feeling. In August, 1832, in his desolate study in Boston, a gifted and perplexed young man—now one of the most distinguished persons upon the roll of Harvard alumni—is writing as follows: "I am entering into acquaintance with Goethe who has just died. The Germans think there have been but three men of genius—Homer, Shakespeare, and Goethe. . . . The Germans regard him as the restorer of Faith and Love after the desolations of Hume and the French; that he married Faith and Reason for the World." Emerson had not yet met Carlyle, nor had he bought that fifty-five volume edition of Goethe which may still be seen in his library. But he perceived as did few other men in either England or America in 1832, that a new era was opening for literature; and he felt, as he was soon to say over and over again in his journals, letters, and books, that Goethe was the "pivotal man" of this new epoch—"the pivotal mind in modern literature, for all before him are ancients and all who have read him are moderns."

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So thought, at least, that company of young Harvard men who had learned their German either under Follen or a little earlier—men like George Ripley, Frederic Hedge—who had gone to Germany as a schoolboy with Bancroft—Theodore Parker, C. C. Felton, James Freeman Clarke, C. T. Brooks, J. S. Dwight; and women like Sarah Alden Ripley and Margaret Fuller—who had begun her German studies with Hedge in 1832. Many of these scholars were too ethically-minded to suit our present temper, and the theological controversies of the 1830's colored their discussion of Goethe's teachings. When Andrews Norton, leader of the conservatives, attacked Goethe bitterly in 1833 in his *Select Journal of Foreign Literature*, the young radicals struck back with unholy joy. It was Margaret Fuller who made the wittiest summary of the New England objections to Goethe: "1. He is not a Christian. 2. He is not an Idealist. 3. He is not a Democrat. 4. He is not Schiller." But both sides read their Goethe, if only for controversial material, and the debate spread far beyond New England.

By 1836 James Freeman Clarke was writing in his *Western Messenger*, published in Louisville, Kentucky: "Five years ago the name of Goethe was hardly known in England and America except as the author of 'a silly book,' *Werther*, an incomprehensible drama, *Faust*, and a tedious novel, *Meister*. So, at least, our critics called them. But now a revolution has taken place. Hardly a review or a magazine appears that has not something in it about Goethe, and people begin to find with amazement that a genius as original as Shakespeare and as widely influential as Voltaire has been among us." A year later, in 1837–38, Longfellow was delivering at Harvard what is believed to be the first course on Goethe given at any American college. The manuscript of these lectures, together with the notes and translations which Longfellow used in his Goethe classes for many a year, are preserved in Craigie House and are shortly to be published. The young professor was already too wise and modest to attempt any novelties of criticism: he contented himself, and certainly pleased his classes, with a clear, competent, and sympathetic interpretation of Goethe's text. By 1839 George Ripley began the publication of his *Specimens of Foreign Standard Literature*, a series of volumes which included translations of many of Goethe's poems, edited by J. S. Dwight, the *Conversations with Eckermann*, translated by Margaret

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Fuller, and Menzel's *German Literature*, translated by C. C. Felton. Ripley also announced a *Life of Goethe* by Margaret Fuller, which was never completed, and which Longfellow thought should not be attempted by Miss Fuller "or any lady."

Finally in 1840 came the first number of the *Dial*, which for four years, under the editorship first of Margaret Fuller and then of Emerson, served as a rallying point for the new literature of idealism, and gave both the friends and foes of Goethe a chance to be heard. It was in the *Dial* that Menzel's bitter attack upon Goethe, translated by Felton, was answered by Theodore Parker and by the editor; while Miss Fuller's second article on Goethe, also printed in 1841, was by far the ablest study of his writings that had appeared in the United States. Here at last was a critic who grasped Goethe's life and work as a whole; who saw the relation of the soul's progress as set forth in *Faust* to the pursuit of individual culture in *Wilhelm Meister* and *Dichtung und Wahrheit;* who perceived the significance of the new type of psychological novel revealed in *Die Wahlverwandtschaften*—a book which even Longfellow thought "monstrous."

Yet today the most accessible evidence of Goethe's influence upon the American mind in the eighteen-thirties and forties is Emerson's chapter in *Representative Men.* It dates as a lecture from 1845, and Emerson had not been studying his fifty-five volumes for nothing. It is true that his admiration for Goethe has certain reservations; otherwise he had been no critic and no New Englander. He still, as in his earliest letters to Carlyle, dislikes Goethe's "velvet life" in Weimar. He thinks that Goethe broke the hearts of women; and finds him "incapable of a surrender to the Moral Sentiment." He sympathizes with Goethe's high aim of culture, yet holds—perhaps remembering his St. Augustine—that "the idea of absolute eternal truth, without reference to my own enlargement by it, is higher." Yet after all these qualifications have been made, what daring and glorious affirmations about Goethe does Emerson utter: "I think the second part of *Faust* the grandest enterprise of literature that has been attempted since the *Paradise Lost.*" Goethe is "a poet of a prouder laurel than any contemporary." "He has said the best things about nature that ever were said." "The old Eternal Genius who built the world has confided himself more to this man than to any other."

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With these glimpses at Longfellow the scholar, Margaret Fuller the critic, and Emerson the seer—none of whom saw Goethe in the flesh—our survey of the earliest American pilgrims to Weimar must close. It seems to me a gallant story of intellectual curiosity, of spiritual adventure. One would like to think, with our beloved Professor Kuno Francke, that Goethe had a special message to America; that his emancipating doctrine of individualism, his feeling for reality, his faith in progress, his sense of the joy of life, are still contagious and beneficent here. But we can scarcely argue about such matters; we can only watch and hope. In Weimar itself there are many changes now. The Grand Ducal Court has gone. The charming residence of the Baroness von Stein is a boarding-house. The bronze statues of Goethe and Schiller still stand in front of the Theatre, but when I was last there a beautiful performance of *Iphigenie* drew a much smaller audience than Strauss's *Salome*, and the bookshops were featuring Upton Sinclair and Oscar Wilde. But the lover of Goethe can smile as books and plays come and go like straws upon the surface of a whirlpool. He too saw books and plays and philosophies and kingdoms appear and disappear. What abides, he thought, is the indivisible unity of the true, the good, and the beautiful, and the ever-renewed will

Uns vom Halben zu entwöhnen
Und im Ganzen, Guten, Schönen
Resolut zu leben.

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The Economist Under Fire

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THE criticism of the economist from many quarters of the public is far-reaching. He is blamed for leading the public astray in 1928 and 1929 by promoting the idea of a "new era" of lasting prosperity, for failing to prevent the depression, and for being unable to point the way out. And why not, when a number of eminent authorities supported the "new era" philosophy, when a presumably competent economist, in December, 1929, predicted a revival of business within a very few months, and when, two years later, several widely recognized economists advocated inflation as the only solution for the depression? One can sympathize with the opinion of Mr. A. Edward Newton "that an 'eminent' economist is always wrong. No two," he says, "have ever agreed as to money, either gold or silver or paper, wages, credit, tariffs, or anything else; yet they remain 'eminent.' "

While Mr. Newton has evidently seen fit to sacrifice accuracy to a well-turned sentence, since there are plenty of points on which nearly all economists agree, his general impression contains more truth than certain members of the profession like to admit. And yet I am convinced that the profession is at least as much sinned against as sinning. There is, in fact, a nearly equal division of culprits into two groups, the first consisting of the press and the public, and the second containing certain troublesome members of the profession itself.

Among the constructive works of the public press the creation of economists, both eminent and ordinary, must be included. Thus I am informed by a newspaper headline that *Economist Says*—so and so, but discover, upon reading the article, that it contains the observations of a particular journalist, a keen observer and a writer of force and charm whose books and articles are widely read and enjoyed. But he is no economist, in the proper sense of the term, for he

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repeatedly fails to grasp the full significance of even the most elementary economic principles. The misapprehension of the public with regard to the professional qualifications of writers of this sort is in large part the fault of their publishers. The writers may have fed the delusion themselves by sanctioning, even instigating, the use of the title, but it is more largely the printed assertion which has made economists out of them in the public mind—that and the fact that they write entertainingly and simply. Many phases of economic analysis are neither entertaining nor simple. The public does not enjoy close and logical reasoning, as the magazine editors well know; but the journalistic economists do not reason closely and logically, choosing rather—often from inherent inability to do otherwise—to write delightfully of the obvious. Their articles are, therefore, in wide demand, while many a superior product, from the point of view of sound economic analysis, finds its final resting place in the author's wastebasket.

The editors are not entirely, or even largely, to blame for this state of affairs. They face a real dilemma. Assuming that they are competent to pass judgment on the economic worth of the manuscripts which come before them for appraisal, they still, with few exceptions, must be forced to reject really good economic articles on the ground that they are too dull or too heavy for the literary digestions of their readers. When in addition it is remembered that the editors are not, as a rule, economists—for which the magazine readers are no doubt thankful—the difficulty of instructing the public properly in economic matters through the medium of the general magazine is practically insurmountable. The hands of magazine editors are effectually tied by circumstances beyond their control, and they could hardly do otherwise if they wished. Nor do I see that there is any apparent solution of the difficulty, since the reading public is the final arbiter.

A great part of the dissension among economists is not among economists at all, but between popular pseudo-economists on the one hand and trained men of the profession on the other. It often happens that at an annual meeting of one of the economic societies a trained economist reads a paper, only to have his conclusions roundly criticised in the ensuing discussion. Several years ago, at one of the annual meetings of the American Economic Association, I overheard a layman

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ask Professor Taussig, who had just presided over a rather stormy session, why economists could never seem to agree on anything. Professor Taussig's answer was entirely reasonable. There are many fundamental principles on which practically all trained economists agree. Naturally they do not discuss these phases of the subject at their meetings, but confine their attention to disputed points. And it is on precisely such questions as the public wants answered—when is the stock market going to turn up, when will the depression end, etc.—that the economist is least qualified, in the present state of the science, to render sound judgment. On underlying principles there is no lack of agreement, as evidenced by the capable and unanimous report of the Young Plan Advisory Committee which has received wide approval from economists generally; or by the Economists' Protest against the passage of the disgraceful Tariff Act of 1930.

Progress in economics is handicapped in a manner which does not affect medicine and the physical sciences. It is concerned to a large extent with the actions of human beings. The inanimate working material of the physical sciences lends itself admirably to experiment while in medicine, bacteria and animals may be used in the laboratory for experimental purposes. Experiments in the economic field, on the other hand, are apt to prove dangerous. Should they go awry, as many would be bound to do, the results would not be pleasing to contemplate. Thus, while experiments have been made and are still advocated from time to time by economists, most of us prefer to make haste slowly lest the treatment prove more harmful than the disease. The public would do well to bear this in mind when it clamors for advice from economists as to ways and means of alleviating economic difficulties. Economists as a class are also handicapped by the public itself, since the layman, fortified with wholly inadequate ammunition obtained from popular articles, is inclined to feel that he is quite as competent as the trained economist to offer opinions and advice. Naïvely believing what he is told and reads, he is often responsible for the perpetration of dangerous and unsound doctrines. The economist should not be blamed when the application of such doctrines results in flat failure.

The economic profession is not alone the innocent victim of circumstances. To the difficulties engendered by the press and the public must be added others for which certain members of the profes-

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sion are themselves largely responsible. These trouble-makers resemble the self-appointed and press-created variety of journalistic economist in that they are usually perfectly sincere, but differ from the latter type in that they should know better. I am not here referring to the mediocre men in the profession. My aspersions are rather cast upon a group of able, often brilliant, men who, because of their deeds, have lost caste among the more scientific members of the profession. Many of them are strongly imbued with the missionary spirit, allowing their zeal to overcome the natural desire of the scientist to place facts ahead of emotions. Others appear to court public acclaim at the expense of their reputations among sound economists. Still others, writing "custom-made" articles, fall below their usual standard of excellence.

There are also the interlopers who pass for economists with the public. I have in mind a brilliant scholar who has done notable work in the field of sociology. His knowledge of economics is fragmentary and elusive, yet he writes freely of economic matters, apparently unaware that his statements would flunk him out of a first-class college course in elementary principles. But the interlopers are not always connected with another profession. I am thinking particularly of an economist who has a deservedly high reputation for his excellent work in the field of labor problems. Yet his peregrinations in the realm of money and credit—to which he has lately become addicted—are little short of pathetic. And he is only one of a number. If these gentlemen would only realize the absurdity commonly displayed by the specialist in strange territory, they would stay in their own yards to the enduring benefit both of themselves and of their neighbors on whose property they trespass.

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The Technique of Creative Thought

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CREATIVE thought may be said to possess two modes—the logical and the intuitive. The technique of the first has always been taken for granted; that of the second has been only occasionally described, and even then exaggerated in claim and obscured in detail. A more considered statement may thus constitute for us the present interest.

I shall denominate as intuitive the following configuration of experience and thought. The scientist, the artist, the practical thinker —the profession makes little difference—has before him a problem perhaps definitely formulated, as in mathematics or science, or only vaguely conceived, as often in art, literature, or music. For months or years, it may be, this problem has remained unsolved, this creative intention unfulfilled. Attempts at solution have ended only in bafflement. But suddenly, often in a moment when the work has been abandoned, or when the attention is absorbed by irrelevant matters, comes an unpredicted insight into the solution. As if "inspired," "given," arise ideas which constitute a real integration of previously accumulated material—an answer, a brilliant hypothesis, a useful "hunch" —forming in essence a short-cut to scientific or artistic advance. Exhilaration marks such moments of insight; a glow or elation goes with them. Their content is either lost at once through inattention; or if caught and held, is molded by a later period of verification and criticism.

It is not to be supposed that these experiences of insight are infrequent, or that they are the vagaries of the untrained. In a questionnaire sent out by the Educational Department of the American Chemical Society in regard to the frequency of "scientific hunch," eighty-three percent of the 232 directors of research laboratories and American Men of Science—chemists, mathematicians, physicists, biologists, men of standing generally—replied affirmatively to

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the following question: "Have you ever received assistance from the scientific revelation or 'hunch' in the solution of an important problem?" My own investigation of about the same number of artists, litterateurs, and musicians reveals an even higher percentage. Almost every serious thinker has had such illuminations; some have had real inspiration. Consider several examples from statements sent me.

Bertrand Russell remarks, and in this his experience parallels that of a large number of scientists: "In all the creative work that I have done, what has come first is a problem, a puzzle, involving discomfort. Then comes concentrated voluntary application involving great effort. After this, a period without conscious thought; and finally a solution. This last stage is usually sudden."

Sir James Flinders Petrie, Egyptologist, illustrates the same points. "My work is mainly historical. I never try to settle a difficult problem off-hand. I first assemble the material, state the problem as definitely as possible, and then if no solution is evident, leave it alone. From time to time I look over it to refresh my memory, but never to force a solution. After waiting days or years I suddenly feel a wish to go over it again, and then everything runs smoothly and I can write without effort."

Vernon Lee, author and esthetician, writes: "The result of fifty years experience and of constant introspection on my methods is my conviction that, in people of my type, creation implies a degree of concentration *amounting to automatism*, so that one's thoughts appear spontaneously without effort. All very intense thought which follows upon severe application, is thus objective, automatic."

A physicist writes: "For two years I had been thinking about solid solutions or mixed crystals. There is a good bit known and some regularity has been discovered, summarized as Vegard's Law. (The law states that the crystal cell dimension is a linear function of the composition in molar percentages.) One morning on going to look up something in the *American Mineralogist*, I came across a paper which denied this law in regard to mixed crystals. Its denial was based on the measurement of crystal spacing and not on the cell dimension to which Vegard's Law is said to apply. This wrong application amazed and disgusted me. Being out of mood for further work, I went to meet a friend who was going to town and was vaguely glad of the relief. I returned to the laboratory for my hat

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and arrived at the car before my friend. I was slightly annoyed at his delay. But suddenly, without warning, the idea flashed upon me that I could start with Vegard's Law and deduce a law for the variation in spacing which these men had measured, and could use all their measured data to check it."

The details of this science do not interest us here. The experience does! Two years of preparation, momentary abandonment of the problem, rising emotion, inconsequential muscular activity (securing the hat, etc.), absorption in other interests, sudden illumination —what does it all mean? Is it haphazard, or is there an underlying pattern?

Deliberate effort, relaxation, and then effort again; consciousness, unconsciousness, consciousness; activity, passivity, activity—such a threefold pattern of thinking holds traces of a kind of mental process which, though not opposed to the logical, is in reality extralogical, consolidating, because of its employment of the whole range of consciousness, the deeper and more inaccessible elements of past mental experience with the immediate surface requirements of the problem. The whole then stands as a creative integration carrying, when verified or objectified, the conviction of truth.

The distinction between creators who think thus and the purely logical type lies in the degree of consciousness present during the second phase of the cycle; that is, just preceding and at the time of, the moment of illumination. The logical minds remain throughout all their labor technicians only, deliberate craftsmen in ideas. About their work there is often a little of the precious, the fussy, the mechanical. For them the creative work is a self-sufficient, self-developing system of ideas growing by a process of outward addition or internal necessity in which the implications of one set of ideas lead to another through a series of technical transformations. An author of this type says: "Inspiration seems irrelevant to my work which is largely intellectual and systematic. My health is consistently good and my method such that artistic moods rarely occur. I can write at will with consistent results at all times."

To the intuitive thinker the immediate steps leading to the solution of the problem remain largely obscure because formulated unconsciously in a period of absorption in unrelated interests or of complete renunciation of conscious effort. The task of such a mind, then,

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lies in holding on to the new fetch of imagination long enough to fix it in memory and to objectify it in a final period of critical supervision and elaboration.

No wonder that the critical attitude alternates with the creative. No wonder that the psychoanalysts have pointed out the polarity between the creative and the destructive urge. The fragile structures built by intuition and imagination which have been reared in secret are devastated by contact with reality. The best ideas thus achieved, the ablest imaginative projects, are slaughtered by henchmen from the world of fact. Some, however, escape, some weather the assault; and when the struggle with reality is finished, they stand burnished and secure among the greatest works of creative accomplishment. Few, if any, of the deliberative and logical constructions come up to them in grandeur. It is Milton in his youth suddenly seizing upon the notion of *Paradise Lost*. It is Goethe as a young man projecting *Faust*. It is Giotto, Gibbon, Fichte, Emerson, Shelley, Coleridge, Blake, Maxwell, Steinmetz, Cézanne, and Van Gogh—and all the list of aerial and impassioned thinkers who have translated idea into ideal actuality.

Some, too absorbed in idea or imagination, and too little concerned with the logic of elaboration, have, like Blake or Van Gogh, stepped over the brink of creative sanity. Others have had more balance. The difference lies in the distance they trek into the hinterland of the mind in search of the fountain of ever-flowing thought.

Scientists are prone to think that most of their colleagues are of the logical type. Actually they are mistaken. The peculiar sharpness with which scientific problems are often formulated, and the frequency with which the solution is found to be elusive, make rather for the intuitive type, at least with those great minds which are working less with established methods and techniques than with essays of pure discovery. Such minds, of course, owe their successful insights in part to that hard training and formulated purpose in which they have schooled themselves. But without relaxation from the problem, without free association and quiet forgetting, their discipline would be pointless. There is something about taking the lid off a creative problem that makes it boil more freely.

With this distinction between creative types in mind, and remembering that it presents a polarity between which range thinkers

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of all statures and of all professions, we may define more carefully the stages in the creative process. I am aware of the technical discussions of such thinking which others, the philosophers, logicians, and psychologists, have given. Here I am trying to be only descriptive, in order to make available an obscure technique.

Accumulation and alignment are the obvious activities of the preparatory period. With thinkers of the deliberative or logical type the process consists largely of an ingathering of materials and conscription of associated elements. The program is systematic, the canvassing thorough.

With thinkers of the intuitive type, however, this first stage is characterized not only by such foraging, but also by a slight apprehension, an ill-defined restlessness to be at the work in hand, an impatience with the painstaking assembling of resources. The creative undertaking looms as a supreme adventure. At the start the object of endeavor is commonly vague; paradoxically, such minds do not know what they want to create until they have created it. As effort is sustained the purpose becomes more comprehensive and explicit. Voluntary restraints, attempts to hold back the tide of enthusiasm, result only in irritation. Through them, however, the problem is set more securely in mind, becomes a more dominant and consuming purpose.

Eden Phillpotts, the Devonshire novelist and dramatist, writes: "For my own part the creative urge is a demon that drives, and will doubtless continue to drive, while my intellect, such as it is, functions normally and does not begin to wither with age. As a boy at school there was a longing to make things. I was always drawing. Then I longed to be an actor and create character; then I found these mediums beyond my power and turned to writing."

Perhaps such a drive is instinctive, reaching down into the very foundations of the personality. Perhaps it is conditioned and due to education, perhaps to abundant and overflowing energy. There are a dozen theories to explain it. In some it is not always persistent. It may lie dormant for years and then, when aroused by an inexplicable circumstance, drive the mind with a lashing hand. Whatever its source, we are certain that the immediate occasion for creative activity is the adjustment to some inner and controlling purpose, the resolution of some dissatisfaction with the world as it is, the ambition to idealize reality.

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An author writes: "It is very seldom that any *direct* result comes from this urge. I feel willing to do creative work but not quite ready, and the mood normally passes away with little tangible accomplished." These are in reality not idle periods, but are moments of accumulation against the day of insight.

Once the possibility of creation is realized, once the imagined alteration in reality is grasped in consciousness, the personality stands in relation to it as before some situation-adjustment in ordinary life. It must be conciliated; its voice must be heard. Since the creator is a person of abounding inner life, the occasions on which adjustment to his inner imaginative purposes are required of him are endless. As the complex requirements of imagination and intelligence grow more restrictive, fewer people achieve creative success until only the genius is left, the man of extreme sensitivity and infinite refinement adjusting to the almost impossible demands of his own inner vision.

Only those who have a balance between such purposes and their powers of expression become creative. Life becomes a conflict between the desire to express imaginative and intellectual purposes and the technique of expression. Let either of these fail and one is bound for shallows and misery. Without technique desire for expression equals neurosis. If the imaginative life ceases, or intellectual energy declines, as so often happens in genius that flowers early, the creative product falls off in quality as well as quantity. Let the discipline of expression be shot through with distraction, delay, interruption, and the thinker becomes frantic, a possible neurotic, giving himself up to futility and frustration. The more explicit the creative purpose, the more strain is put upon the adaptive powers. A great research scientist says that most of his clear-cut insights come in the more sharply formulated mathematical and physical problems. The creative desire, when present in intensity, or thwarted by circumstance, is no exception to the rule that instinctive and insistent drives induce unyielding tension in the personality. There is bafflement and yet through it all an intimation of impending accomplishment.

Consider for a moment the following example. It concerns artistic suicide; but it will illustrate more clearly than a case of artistic success the mechanism of which I write. Berlioz struggled against the creative impulse and eventually killed it. He suffered from poverty while at the same time his wife's health was causing him anxiety. One

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night there came to him the inspiration for a symphony. It ran in his head, an allegro of two-four time in A-minor. He rose from his bed and began to write. But he thought: "If I begin this bit, I shall have to write the whole symphony. It will be a big thing and I shall have to spend three or four months over it. That means I shall write no more articles and earn no more money. And when the symphony is finished, I shall not be able to resist the temptation to have it copied (which will mean an expense of a thousand or twelve-hundred francs) and then of having it played. I shall have a concert, and the receipts will barely cover the cost. I shall lose what I have not got. The poor invalid will lack necessities, and I shall be able to pay neither my personal expenses nor my son's fees when he goes on board ship. These thoughts made me shudder and I threw down my pen saying, 'Bah! Tomorrow I shall have forgotten the symphony.' But the next night I heard the allegro clearly and seemed to see it written down. I was filled with feverish agitation. I sang the theme. I was going to get up, but the reflections of the day before restrained me. I steeled myself against the temptation and clung to the thoughts of forgetting it. At last I went to sleep; the next day upon waking all remembrance of it had indeed gone forever."[1]

What restless energy to create, disturbing even sleep! What fatal adjustment to inner reality! Such artistic immolation and the death of such an idea sears the mind. The blocking of a creative purpose either by circumstance or lack of technique not only smothers inspiration; it leaves the personality hobbled, unable longer to vault the fences to creative freedom. And it makes one shudder, but perhaps also admire an artist who was heroic enough—or was it mad enough?—to substitute duty for genius.

It is a common conceit of some creative thinkers to wish the public to believe that they proceed directly to their actual work with the greatest efficiency and most disciplined methods. They would shudder to let folk peep through the key-hole into their studies or laboratories. The chaos would be disillusioning. The rejected pages, the waste basket full of unusable plans, the blunders in writing or technique, the unmanageable fantasies, all these evidences of wavering and indecisive thought would be viewed. The public does not realize

[1]Romain Rolland, *Musicians of To-day*. Translated by Mary Blaiklock. New York: Henry Holt and Co., 1908.

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that creative works unfold and are achieved through a partially indeterminate yet inevitable process.

Such false starts still further heighten the frustration. But they are not always due to a blundering technique. In part they result from the failure of the early efforts to come up to the standards set by the inner ideal. Negative standards are usually more explicit than positive; that is, the thinker knows more easily when the work is wrong than when it is right. In short, the inner ideal has not yet been adjusted to reality; or rather, in the process of its adjustment it resists any alteration in itself. It would prefer the changes to be made in the outer world. It desires to retain its integrity.

The emotional tone and tempo of activity which has accompanied early random efforts must be cooled. The problem must be temporarily renounced, abandoned, laid back in one corner of the mind. And it would forever remain there were it not for the germinal nature of repressed ideas, their yeasty ferment in the lower levels of consciousness.

Repression leads only to a fantasy life. The creative thinker cannot let go his problem. It controls his perceptions, masters his moods. The hidden purpose bobs up in a thousand hydra-headed forms producing, like continued asceticism, sometimes melancholy, sometimes inflation of the ego, sometimes over-idealization of desire.

It is during such periods of temporary frustration that the thinker is usually saved from a psychopathic condition by the simple expedient of turning to other interests. In this way he avoids most of the physical symptoms of restlessness, irritation, and absent-mindedness which would otherwise crop out in greater intensity. If the frustration is long continued, he may say with a great scientist: "If my ideas come reasonably quickly, I am happy. If not, I get bored or wild. Turning to other matters, walking, physical exercise, or reading—that is, getting my mind off the subject—helps; but only if there is final success." But he may, like Schiller, keep rotten apples in his desk; or like Cavendish, he may creep by the back door from the society of illustrious guests who would inquire of his work. He may even come to have an ugly abhorrence for the problem, making a sudden retreat toward introversion. Like any obsession, his desire for creation is excited by incidental associated stimuli and develops in the form of sporadic attacks on the problem. Intuitive thought is *not*

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pathological. Its hygiene lies in insisting on the objectification of hidden desires, and when maintained, fosters the most healthy and integrating of all mental experiences. But it shows, in part, blood kinship with morbid psychological phenomena. Its misuse, as with those blind mystics who seek ecstacy for its own sake, may recapitulate the pathologies of its forebears.

In an attempt to systematize their method some thinkers deliberately resign themselves to desultory activity. In a revolt against all conventional thought, all social restriction, they aim at securing flexibility of mental association while not losing the problem as a point of departure and return for the errant fancy. Would-be artists have stressed unduly the unsystematic elements of this experience, thinking that in it alone lies the secret of originality. But freedom is as much a part of the essential discipline as preparation. It is elbow-room for imagination, release from conventional thought-prisons, autonomy of the creative self.

The snarling criticism of the deliberative thinkers leveled at the erratic working hours, the off days, the free time of the intuitive minds, is without point. Integrations of thought are infrequent without the periods of free association hung up momentarily on some point of reference.

What then lifts the mind out of its desultory inanity and sets it back on the road to a solution of the problem? The real difficulty is not so much to explain the untimed appearance of brilliant ideas, for these are a function of the quality and background of the mind, as to explain why the stimulus which produces the final organization is so *remotely* and *casually* related in consciousness to the creative purpose. The answer is, I think, clear.

Two types of situation must be considered; first and obviously, that in which the casual idea is related to the creative undertaking and is eventually incorporated into the work itself. Aldous Huxley says: "Accidental interests not only crystallize my ideas, but always bring something useful to the work in hand. '*Je prend mon bien ou je le trouve*,' and I find it everywhere."

Secondly, there are cases in which the accidental idea is not used in the final product, in which it acts merely as a catalytic agent in the presence of which other ideas are fused into creative union. John Livingston Lowes, in *The Road to Xanadu*, has pointed this out re-

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peatedly in regard to Coleridge's work. William Butler Yeats writes: "The creative insight comes in a moment of absorption in other interests or of forgetfulness. But the effort must be sustained until the strain produces results." Literature, art, music, every branch of thought furnishes examples. A cantata of Mozart's *Don Giovanni* came to him on seeing an orange which recalled a Neapolitan air heard five years before. The sight of the porter suggested to Leonardo da Vinci his *Guida*, and so on. The orange and the porter act merely as diverting stimuli momentarily absorbing the attention.

It did not take the psychoanalysts to point out the integrative value of periods of *free association*. At some stimulus, usually a word or accidental phrase given by the physician, clusters of bat-like thoughts come thronging into the sunlight. Random memories, forgotten incidents, long lost events which form the matrix of mind, are recoverable at such time of reverie and fantasy. As these materials are recognized in consciousness, the personality is newly integrated and its neurosis disappears. Any technique which will produce such moments of slight abstraction can be used to secure unity of mind, provided only the period is fostered for the sake of the integration and not for idle amusement at the fragmentary ideas which appear.

It must be clear that creative thought displays the same mechanism. The accidental, diverting idea, as in the cases mentioned above, produces a moment of slight division of consciousness through its command of attention. As always under such circumstances the transference of the material from the lower to the higher levels of mind is facilitated. The dissociation, though slight, is the occasion for its rise just as the *association words* of the psychoanalyst are the occasion for freely welling thought. Out of the flood of these ideas, creative works are fashioned. It is the employment of the *whole mind* in pursuit of the desired end. Conscious criticism is for the moment in abeyance and thought forges ahead to new and freer levels of invention.

I would guard against the belief that the insight always brings a fully formed imaginative concept into being and then objectifies it. The experience, except in short works, is not so definitive. Rather does insight come with and become a part of the process of expression. It yields only a clew, a key word, a starting point of which the pregnant implications must be worked out in periods of high-tensioned and almost automatic mental activity. The mood is hard won and vastly

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rewarding. But unless the fleeting thoughts can be at once set down, or made sufficiently conscious to be remembered, they will probably be lost forever. Nor is the work in polished form. One often overdoes the thing, writes too floridly, puts in unnecessary digressions which must later be deleted. But it is out of this very overproduction and overflow in the period of constructive elaboration that final results are achieved.

And now we have a hint as to the strange quality of many of the works of highly intuitive minds, that quality of other-worldliness, that mixture of images and conflux of associations which mark the lyric, the spontaneous, the romantic, from the classical and the conscious. The intuitive thinker, drawing half of his material from the daylight and half from the shadowy margins of lower consciousness, mixing his fact with fancy, suffering the coalescence of mind into one new and expressive self, in reality lays bare a different mind, a transcendental, superlative faculty—the products of which are more a sample of inner mentality than the one-sided contributions of logic.

For some few moments or hours, as with the mystics, the immediate sensory world passes out of existence, and in its place appears a new world wholly personal, wholly the projection of inner light onto the shadows of outer obscurity. And as that light plays in the gloom, new landmarks emerge, vaguely seen to be the continuation of the footing on which one stands. New things under the sun are always the shadow of old things thrown out against the receding background of reality. Intuition is the searchlight which plays intermittently in this obscurity while logic would press into it cautiously.

The implications of this threefold mode of thought—activity, passivity, activity; consciousness, unconsciousness, consciousness; effort, relaxation, effort—are too extensive to be continued here. Such a technique extends itself endlessly to science, ethics, esthetics, education, religion, wherever thought penetrates feelingly into the unknown. Creative thought is the history of these factors in multiple and ever changing patterns. For this reason no one will ever quite agree with his neighbor about the process. And for that reason in turn no one will ever write the whole account, for it is written not in words but in experience.

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The Mandates

FANNIE FERN ANDREWS

AMONG all the agreements concluded at the Peace Conference in 1919 none was more impressive than the adoption of the principle of trusteeship applied to backward communities in certain parts of the world. Until the Paris Conference there had been no attempt by the great Powers to reach any general understanding concerning the betterment of backward peoples. Hitherto, these groups had generally been governed or exploited by some Power for its own interest.

During the World War, after the forces of the Allied Powers had occupied the German Colonies and the Arab provinces of the Turkish Empire, there was general agreement, both by the Allied and the Associated Powers, that these territories should never revert to their old rulers. Later on definite principles were laid down concerning the disposition of these territories. These rules, moreover, were found in the instruments, adopted by both belligerent groups, as the basis of the peace. The Fourteen Points, for example, provided for the autonomous development of the Arabs, and, in addition, the famous Four Point speech by President Wilson declared that the interest of the people should be the primary consideration in the settlement.

When, however, the Peace Conference opened at Paris there was far from unanimity among the delegations as to the disposition of the German Colonies and the Arab provinces. Some of the representatives made strenuous claims for out-and-out annexation, on the basis of rights obtained by force of arms. Nevertheless the Council of Ten finally decided to base the settlement on the new principles enunciated in the terms of peace. But the decision was taken only after a vehement discussion lasting four days, from January 27 to 30. During this time President Wilson explained the mandatory idea, and showed what was meant by the proposition of a trusteeship by the League of Nations through the appointment of Mandatories. In the face of a solid opposition from the other members of the Ten, he

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earnestly insisted on completing the plan for a League of Nations before the allocation of the German Colonies and the Arab provinces.

One not familiar with the story of this part of the Peace Conference can hardly appreciate the full import of this discussion. There was clearly a breach between the "old diplomacy" and the "new." It was here that the secret treaties, made by the Allies during the War, first came to the front.

After Lloyd George had marshalled the Dominion Premiers into the Conference room to present their claims for Colonies on the basis of forceful possession, France had argued for "annexation pure and simple," and Japan had demanded the "unconditional cession" of "All of the Islands in German possession in the Pacific Ocean North of the Equator," the discussion on January 28 came close to an open rupture. When at last, however, it became evident that the President would not deviate from his program, his opponents adopted a new course of action, the French resorting to biting criticisms of the President through the medium of the press.

The British on their part resorted to a more intricate scheme. Lloyd George held a meeting of the British Empire delegation, and after heated arguments, got the Dominion Premiers to agree to a resolution supporting the mandatory system, in the hope that this would satisfy the President and induce him to agree to an immediate distribution of the coveted territories. Lloyd George presented the matter to the meeting on January 30. But the President, although not opposed to the terms of the resolution, still insisted that the League of Nations, on which the mandatory principle depended for proper functioning, should be worked out first. Discussion became acrid but before the session was over, although there was bitter disappointment among the President's opponents, the resolution was adopted and the question of Mandates was permitted to go to the League of Nations Commission. The mandatory plan, adopted at this session of the Council of Ten, was finally embodied in the Covenant of the League of Nations as Article XXII. The first draft of the Covenant was unanimously accepted by the delegations at Paris, February, 1919.

Article XXII states that the well-being and development of peoples "not yet able to stand by themselves under the strenuous conditions of the modern world form a sacred trust of civilization." Here was a new idea in the political practice of states—a definite breaking

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away from the "old order." Specifically, the plan entrusts the tutelage of backward peoples to advanced nations who exercise their trust as Mandatories on behalf of the League of Nations.

This Article describes three types of territories which come under the scheme of trusteeship. They differ, in general, according to the stage of development of the people. The first type, mentioned in the Article, consists of those communities formerly belonging to the Turkish Empire. These peoples were deemed to have reached a stage of development where their existence could be provisionally recognized as independent nations, subject to the rendering of administrative advice and assistance by a Mandatory until such time as they were able to stand alone. The wishes of these communities were to be a principal consideration in the selection of the Mandatory. These territories are called the A Mandates.

The second type of Mandate includes peoples of Central Africa, formerly in German Colonies, who were at such a stage that the Mandatory's administration must, among other matters, guarantee freedom of conscience and religion, prohibition of the slave trade, the arms traffic, and the liquor traffic. These were the B Mandates.

The third class, the C Mandates, covers territories such as Southwest Africa and certain of the South Pacific Islands, which, owing to the sparseness of their population or their small size, or their remoteness from the centres of civilization, can best be administered as integral portions of the Mandatory, subject, however, to safeguards such as those mentioned for the B Mandates, in the interests of the indigenous population.

In every case of Mandate, the Mandatory, the guardian state, must render to the Council of the League of Nations an annual report. The Mandatory is subject to constant scrutiny, through a special organ of the League, called the Permanent Mandates Commission, which receives and examines the annual reports of the Mandatories and advises the Council on all matters relating to the observance of the Mandates. It was not until after the Preliminaries of Peace were presented to the defeated Germans, on May 7, 1919, that the German Colonies were allocated.

On May 7, 1919, the Supreme War Council allocated Togoland and the Cameroons to Great Britain and France (who were to make a joint recommendation to the League of Nations as to their future)

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and German East Africa to Great Britain. These were the B Mandates. The C Mandates were distributed as follows: Southwest Africa to the British Dominion of South Africa; the German Samoan islands to New Zealand; Nauru to Great Britain, Australia, and New Zealand; the other German Pacific possessions south of the equator to Australia; and the German islands north of the equator to Japan. All of these arrangements were carried out, with the exception of the plan to give German East Africa to Great Britain. This territory was later divided between Great Britain and Belgium, each receiving a Mandate over its respective sphere. The part of the territory administered by Great Britain was officially named Tanganyika Territory in January, 1920. Urundi and Uranda, the most populous parts of German East Africa, were assigned to Belgium in return for the help given by the Belgians in the campaign for the conquest of German East Africa in 1917. The final result, therefore, of the allocations was to transfer about thirteen million people, formerly in the African possessions of Germany, to Mandatories under the supervision of the League of Nations.

The allocation of the Turkish territory was bound up with complications resulting from secret negotiations made by the Allies during the War. All these were aired at the Peace Conference and found to be incompatible with the terms of peace. As Mr. Westermann says: "Liberal British statesmen saw clearly the impassable gulf between this declaration (the Fourteen Points) and the secret agreements." The Turkish provinces were not allocated until about a year after the Peace Conference closed. The Supreme Council, at San Remo, assigned the Mandate for Syria to France and the Mandates for Palestine and Mesopotamia (now called 'Iraq) to Great Britain. The assignment of these Near-Eastern territories, as was the case with the B and C Mandates, was made before the former sovereign renounced his title. This renunciation, as we know, did not take place until the ratification of the Treaty of Lausanne by the Grand National Assembly on August 23, 1923, which, however, did not come into force until August 6, 1924. Indeed, Turkey, in her Declaration of Independence, dated January 28, 1920, had distinctly opposed any distribution of Turkish territory such as that meted out at the San Remo Conference. About six million people are living under these three A Mandates.

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With this dramatic and tumultuous background, one might well wonder how the Mandates have succeeded. The Permanent Mandates Commission has been most meticulous in carrying on its work. It studies each and every report of the mandated territories, and during its sessions questions the Mandatory's representatives as to any doubtful situations.

The terms of the Mandates for the B and C territories are alike in several respects. It is common to all these Mandates that the Mandatory has full powers of administration and legislation over the territory. The distinguishing feature, however, in the B and C Mandates, with reference to these powers, lies in the fact that in the C mandates the Mandatory may govern the territory as an integral part of a country under his own sovereignty, and may apply the laws of such country to the territory; whereas, in the B Mandates, the country is governed separately. These principles mark a notable advance on previous colonial practice and already have exerted a marked influence upon that practice. There has been noted a tendency to apply, in Colonies adjoining mandated areas, the general principles of the Mandates intended to provide protection for the native peoples.

In order to give effect to the principle of respecting native laws and customs, the British Mandatory Administration in the East African and the West African mandated territories has inaugurated a system of indirect government by the native kings and chieftains; and again in Uranda-Urundi, the Belgian Government has recognized the paramount chiefs and allows them to govern their peoples.

As one studies the reports of the B and C Mandatories, and the Minutes of the Permanent Mandates Commission, one is gratified to believe that the general purpose of these Mandates has been carried out, and that the great experiment of caring for backward peoples in these regions has proved its worth beyond a doubt.

The administration of the A Mandates makes a wholly different story. Although the terms of the Mandates for these three territories include certain general principles of the mandate system as embodied in Article XXII of the Covenant of the League of Nations, they differ in certain essential circumstances, owing to the varied conditions in the three countries. The rules for the government of Palestine, Syria, and 'Iraq were drawn up to meet each special situation. Inherent in all these Mandates, however, as envisaged in the Cove-

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nant, is ultimate independence, which, according to this same instrument, can only come when the population is "able to stand alone."

In none of the Mandates were the wishes of the peoples "a principal consideration in the selection of the Mandatory," as is stipulated in the Covenant. The territories were allocated on the basis of treaties made during the War, and consequently with reference to the interests of the Mandatory Powers. This was vehemently resented by the Arab peoples in these Near Eastern provinces. None of them wanted a Mandate. They believed they had been promised independence. They had joined the Allies in the War because of the promise given to Hussein by Great Britain through the McMahon Letters; and their interpretation of this meant immediate independence.

'Iraq never recognized the Mandate. By a plebiscite of the population, Emir Feisal, son of Hussein, and leader of the Arab revolt against the Turks, was crowned King of 'Iraq in August, 1921. In September, 1922, Great Britain announced to the Council of the League of Nations that, owing to the remarkable progress of the country in the way of self-determination, and also because of the strong feeling against the mandate system, she proposed a change of relationship between the Mandatory and 'Iraq. In October, 1922, a Treaty of Alliance was concluded between the British Government and King Feisal. This was accepted by the Constituent Assembly of 'Iraq in 1924. Under the Treaty, the King of 'Iraq was to be guided by the advice of His Britannic Majesty in all important matters affecting the international and financial obligations and interests of His Britannic Majesty. With regard to foreign relations the King was to have the right of representation in London and other capitals as might be agreed upon. The treaty was for a limited number of years, and its termination was subject to confirmation by the League of Nations, unless before that date 'Iraq should be admitted to membership in the League.

During the year 1928, the Mandatory entered into new negotiations with 'Iraq. Some of the proposals made by the Mandatory, however, created great opposition, and in 1929 the British Government announced that it proposed to recommend that 'Iraq be admitted as a member of the League in 1932. It informed the Council of this decision, and this body, on September 4, 1931, passed a resolution requesting the Mandates Commission to submit suggestions

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which would guide the Council in deciding what general conditions would have to be fulfilled before the Mandate of 'Iraq could come to an end. The Mandates Commission concluded its report to the Council at its fall meeting in 1931; and this and the British Government's recommendation will be presented to the Assembly of the League at its meeting in September, 1932. Thus 'Iraq, under the guidance and assistance of the Mandatory Power, has advanced from a condition of tutelage to a position of almost complete independence. This illustrates well the advantages of the mandatory system.

The Syrian Mandate presents a different problem—one which opens up intricate devices of administration. Within this territory there are two separate nationalities: first, the predominantly Moslem population of Syria proper, which includes the Arab towns of Damascus, Homs, Hama, and Aleppo; and, second, the predominantly Christian population of the Lebanon. Like the Arabs in 'Iraq, the Syrians voiced their claim to independence. On March 11, 1920, a few weeks before the San Remo Conference allotted the Mandate of Syria to France, the "Syrian Congress" proclaimed Feisal King. He accepted the proclamation and formed a Ministry. In May the Arab nationalists definitely rejected the French Mandate but Feisal was deposed by the French on July 25 and France assumed control as Mandatory. There was set up a loose Syrian Federation under the general control of the French High Commissioner at Beirut. This consisted of five autonomous states, each having a flag of its own: the Great Lebanon, the State of Damascus, the State of Aleppo, the Territory of the Alauoites, and the small Druse State in the Hauran. This system of administration proved very unsatisfactory to the Syrians, and on June 28, 1922, a Syrian Federation was brought into being, including all the states except the Lebanon. The independence of the State of Lebanon was recognized.

In 1925 an organic law was framed for the Lebanon and in 1926 that state became a republic. The Mandatory, however, failed to formulate an organic law for Syria within the period of three years prescribed by the Mandate, and in 1925 and 1926 there was a serious outbreak against the French Mandatory. This started in the Jebl Druse territory, spread over the greater part of Syria, and included even parts of the Lebanon. French troops combated the uprising and parts of the town of Damascus were heavily bombarded.

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The Permanent Mandates Commission held a special Session at Rome in January, 1926, to consider the situation. The Mandatory was criticized for the policy which prompted such repressive measures; and the result was a thorough and complete examination of the administrative system. A Constituent Assembly for Syria was elected early in 1928. It was not able, however, to come to an agreement with the Mandatory as to the terms of the Organic Law, and in February, 1929, the Assembly was indefinitely prorogued.

After an interval of about a year and a half, the Mandatory Power issued a Constitution for Syria, or, to be exact, a series of five Constitutional Laws for Syria, the Lebanese Republic, the Province of Alexandretta, the Alauoite State (now called the Government of Latakia), and the State of the Jebl Druse. The Organic Law for Syria is in general similar to the Constitution of 'Iraq. It opens by a declaration that "Syria is an independent and sovereign State."

Besides the Organic Laws, there is a Conference, summoned and presided over by the High Commissioner, which deals with the common interests of the five separate units. Thus, the French Mandatory has established, in addition to the two Republics, three other constitutional units, and a common Conference which links the administration of the territory with the obligations of the Mandatory Power.

The Mandate of Palestine presents most puzzling complications. It is unique among all the Mandates. Besides holding the country as "a sacred trust of civilization," which is common to all classes of Mandates, the Mandatory for Palestine is deeply concerned with the good government of the country that contains the Holy Places of three great religions.

There are, at the same time, two opposing communities in Palestine: the large native element, the Arabs, who, like their brothers in 'Iraq and Syria, expected to be independent after the War; and then the newly arrived Jews who, by international treaty, are exercising their right to establish a Jewish National Home in Palestine. These Arabs have never accepted the Mandate. They believe they are as able to "stand alone" as the Arabs of 'Iraq. They never cease to quote Article XXII, and vehemently proclaim that the Balfour Declaration and the terms of the Mandate which give effect to this instrument form a definite and complete repudiation of this Article of the Covenant. A deep-rooted hostility against the Jews grew up at the very

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beginning, and this brought violence and injury in its train. The whole history of the Palestine Mandate is full of Arab-Jewish dissensions.

The Balfour Declaration, a sentence of sixty-seven words, is probably the most famous state paper in history. By it Great Britain undertakes to facilitate the establishment of a national home for the Jewish people in Palestine, but with the reservation that "nothing shall be done which may prejudice the civil and religious rights of existing non-Jewish communities in Palestine or the rights and political status enjoyed by Jews in any other country." Zionists fervently interpret this Declaration to mean that the Mandatory is under a trust to bring about an age-long ideal of the Jews to establish a new national life in Palestine.

Although several articles of the Mandate describe the methods of fulfilling the obligation of the Mandatory to "facilitate" the establishment of a Jewish National Home, the chief factor in the situation is the difficulty of interpreting the precise meaning of the Balfour Declaration. It is "vague, purposely vague," one writer declares, and was therefore bound to become an instrument of conflict.

It was not until 1922 that the British Government gave its interpretation of the Balfour Declaration. This followed the serious disturbances between Arabs and Jews which occurred at Jaffa on May 1, 1921. After an exhaustive investigation which clearly showed the intention of the Government to treat both sides with strict justice, distrust of the Government became almost universal among the Arabs. To meet the situation the British Government decided to draft a constitution which would explicitly define the constitutional rights of all the inhabitants of Palestine. An official summary of the constitution appeared in the press in February, 1922. Soon after this a delegation from the Moslem-Christian Society went to England and carried on conversations with the Colonial Office. They protested against the constitution and denounced the Jewish National Home.

A British White Paper appeared in June, 1922, which contained the Arab correspondence with the Colonial Office and a Statement of British Policy in Palestine, commonly called the Churchill Statement. In addressing the Arabs, the Statement declared that the Balfour Declaration did "not contemplate that Palestine as a whole should be converted into a Jewish National Home, but that such a

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Home should be founded *in Palestine*." The Jews, on the other hand, were told that in order that the Jewish people should have "full opportunity to display its capacities, it is in Palestine as of right and not of sufferance."

In spite, however, of the non-cooperation on the part of the Arabs, the British Government went forward with plans for the establishment of representative government in Palestine, as the Constitution provided. In February and March, 1923, an attempt was made to hold elections, but the Arabs refused to vote. Thereupon the Mandatory decided to suspend that part of the Constitution which related to the establishment of a Legislative Council. Then, in July, 1923, the High Commissioner was instructed to offer the Arabs equal representation by means of an Arab Agency, analogous to the Jewish Agency in Palestine. But again the Arabs declined to work with the Government, and in view, therefore, of this non-cooperative attitude of the major part of the population, the Governing Council was formed, composed entirely of officials.

The next outstanding development in the application of the Palestine Mandate came in consequence of the disturbances in 1929 relative to the Wailing Wall, the last vestige of Solomon's Temple and the foundation of one of the three most sacred Moslem mosques in the world. The ownership of the Wall is not in dispute. It is Moslem property. The controversy concerns the respective rights of the Jews and the Arabs to the place. Three incidents have occurred at the Wall, in 1925, in 1928, and in 1929. All three were discussed by the Permanent Mandates Commission, and a White Paper, issued by the Mandatory in 1928, sustained the position that the Jews have an established right of access to the place. The disturbances in 1929 spread all over the country and many Jews and Arabs were killed. After quiet was restored, the High Commissioner appointed a Commission of Inquiry. The Commission issued an exhaustive Report, and the matter was presented to the Permanent Mandates Commission.

This called for a new statement of policy on the part of the Mandatory. The Prime Minister declared in Parliament that "it is the firm resolve of His Majesty's Government to give effect, in equal measure, to both parts of the Declaration, and to do equal justice to all sections of the population." The Mandatory asked for the appoint-

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ment of a Commission on the Wailing Wall which would study the whole situation. This Commission was appointed by the Council of the League of Nations, and its decisions as reported are held as final.

The Permanent Mandates Commission convened an extraordinary session in June, 1930, to consider the matter in the light of the Mandatory's obligations. Its general conclusions contain criticisms on various matters, and approval of others. This discussion showed the need of a close survey of the questions of land settlement, immigration, and development. The sending of Sir John Hope Simpson to Palestine to report upon these matters was a turning point in the history of the Palestine Mandate. He declares in conclusion: "The only way in which the Mandate can be carried out is by the intensive development of rural Palestine. Without development, there is not room for a single additional settler."

This Report formed the basis of the Statement of Policy which was issued simultaneously with the Report, on October 20, 1930. This famous Statement by Lord Passfield affirms in its closing paragraph that upon the evolution of a policy which will take full account of the problems of development, immigration, and unemployment, which are interrelated, must depend the future of Palestine.

There was a spontaneous cry from the Zionists for a modification of the White Paper, and the result was the MacDonald Letter to Dr. Weizmann. The affair came up in Parliament, and the debates were watched very closely by the Arabs who considered the Letter a "surrender to Jewish pressure." Nevertheless, Dr. Weizmann hailed the Letter "as reëstablishing a basis for Zionist cooperation with the Mandatory Power."

At the present time, both Arabs and Jews seem to regard the forthcoming report of the Palestine Land Commissioner as either fatal or favorable to their future in Palestine. Whatever is finally worked out, however, with regard to immigration and the distribution of the land in this little country concerns not only the Arabs and the Jews, but the whole mass of civilization. Palestine, like all the Mandates, is held as "a sacred trust." It is of no essential consequence that the terms of the Palestine Mandate make no reference to a time limit for the termination of British administration. The obligation of the Mandatory to administer the Holy Land will cease to exist when the peoples are "able to stand alone."

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Cooperation in American Research

W. H. COWLEY

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CIVILIZATION at the end of the first third of the twentieth century has butted into a predicament akin to that faced and immortalized in the fourteenth century by a famous jackass. The story is familiar. A Frenchman by the name of Jean Buridan owned a philosophical donkey. One day when equally hungry and thirsty, the beast found himself half-way between a bag of oats and a bucket of water. In a quandary he stood contemplating both. Unable to decide in favor either of the water or the oats, he is said to have wasted away and died.

Modern society struggles with the same dilemma. In place of the bucket of water, we have individualism, in place of the oats, collectivism. For centuries individualism has been dominant, but collectivism spreads rapidly in communistic Russia, in socialistic Germany, in syndicalistic Spain. It spreads even in the United States, still close to pioneer, each-man-for-himself traditions. Witness the social legislation of the past two decades, community chests, aid for the unemployed, and the Reconstruction Finance Corporation.

Certainly in its science our society is veering off in the direction of a collectivism which takes the form of cooperative research in industry and in the universities. And the result of research done in universities and industry must meet a persistent challenge of its value by a demonstration of its worth. American business first began to realize the possibilities of research about 1900. A laboratory here and there had begun to experiment, and the findings proved so profitable that with the years their numbers have steadily multiplied, and their budgets for equipment and personnel have become enormous. It is estimated that today $250,000,000 are annually spent by American industries for research. A great part of this money is spent for co-

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operative research of two types: research within single corporations, and research within industries.

Most of the larger corporations conduct their researches after the first of these two plans. General Motors has a huge research organization; so also have the DuPont Industries, the American Telephone and Telegraph Company, the General Electric Company, the United States Steel Corporation, Allied Chemical, and numerous other large businesses. Perhaps the outstanding research of this sort being done is that of the American Telephone and Telegraph Company through its research organization, the Bell Telephone Laboratories, which annually spends $24,000,000 and supports a personnel of six thousand people. More than a hundred doctors of philosophy are employed in these laboratories in addition to thousands of engineers of many varieties.

Here the chemist does not work alone, nor the physicist, nor the engineer. In the development of radio telephony inaugurated between Arlington and Paris in 1915 all departments of the laboratories joined forces. The physicist contributed his knowledge of sound wave lengths and electromagnetism; the chemist his knowledge of metals and alloys, and the engineer his ingenuity in designing and building workable instruments. From these laboratories have come long distance telephony, transmission of pictures by wire and radio, perfected vacuum tubes for radiography, transoceanic telephony, improved cabling, the transmission of several messages, telephonic or telegraphic or both, over the same pair of wires, high-quality loud speakers, almost perfect accuracy in the transmission of telephone messages, the orthophonic phonograph, and the talking motion picture.

The great majority of business organizations are, of course, unable to finance such imposing research organizations. Industrial groups, therefore, undertake cooperative research among themselves, using the facilities of numerous universities, governmental agencies, and privately controlled laboratories. This constitutes the second type of cooperative research in industry. Forty-four trade associations support ninety-five research associates at the United States Bureau of Standards. The Bureau furnishes quarters, equipment, data, supervision, and the services of expert consultants. The trade associations supply the funds.

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The automobile industry, for example, maintains a group of investigators at Washington working on the problem of improved brake linings for automobiles. It is estimated that the improvements resulting from this research are annually saving the industry and the public some fifteen million dollars. A second investigation in rubber tires is estimated to be saving forty million dollars annually. A third investigation in motor fuels is yearly accounting for economies amounting to over a hundred million dollars. The researches conducted by the Bureau of Standards working with the automobile and petroleum industries are but samples of cooperative enterprises undertaken with almost fifty trade associations in commodities ranging from twine to locomotives. The United States Government annually makes notable contributions to cooperation in research.

And so also do universities. Perhaps the most imposing organization for joint participation in research between industry and a university is the Mellon Institute of Industrial Research of the University of Pittsburgh. This institute, established in 1906, operates after much the same pattern as the Bureau of Standards. In 1931 it sustained seventy-six fellows representing a dozen trade associations and numerous private corporations. From March 1, 1930, to February 28, 1931, fellowship donors contributed in the neighborhood of $800,000 to the Institute. Their programs include investigations in carbonated beverages, insulating lumber, cooking utensils, insecticides, edible gelatin, milk products, iodine, yeast, citrus products, laundering, food packing, coffee.

The yeast investigation has been especially striking because of the achievements of Dr. H. A. Kohman and his associates. Some years ago, Kohman's group of investigators developed Arkady Yeast, a preparation of inorganic salts used in dough mixing, which effects important economies in baking, gives greater control of dough batches, conserves the strength and stability of the dough, and improves the quality, flavor, texture, bloom, and uniformity of the finished loaves. An editorial writer in the *Journal of Industrial and Engineering Chemistry* has estimated that Arkady, developed as a result of a cooperative investigation, is saving the baking industry not less than forty thousand dollars a day.

What the University of Pittsburgh is doing on a large scale through the Mellon Institute other universities are doing on smaller

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scales. During 1928–29 the engineering colleges of the country received $1,250,000 from industry for research. This constituted considerably over half of their total investigative funds and included the projects undertaken for the Utilities Research Commission of Chicago which finances studies at the University of Michigan, the University of Chicago, Johns Hopkins University, Massachusetts Institute of Technology, Batelle Memorial Institute, and Purdue University. For each project the commission organizes a committee from utility companies in the field in which the research falls, and the cooperating university appoints a coordinate committee. Both groups meet frequently to discuss the monthly or quarterly reports submitted by the investigators. Every important engineering school in the country participates in one or more of these cooperative ventures. Although the largest sums for research are coming to universities for technological studies, much is coming for research in merchandising, industrial relations, and management methodology. The University of Pittsburgh is cooperating with department stores through its Bureau of Retail Selling, the University of Chicago with the packing industry through the Meat Packers Institute, Ohio State and Illinois through their Bureaus of Business Research, Harvard and Pennsylvania through their business schools.

Engineering and biological investigations are handsomely endowed by industry because the physical and biological sciences have developed more basic concepts and more workable techniques than the social sciences. As industry, however, comes to recognize the insistence of problems of distribution it will undoubtedly devote larger sums for investigations by economists, personnel workers, psychologists, and sociologists. Within the past decade much progress in this direction has been made by the United States Department of Commerce, large banks, such as Chase National and the National City Bank of New York, and trade associations in many branches of industry. The National Manufacturers Association sponsors the National Industrial Conference Board, the Labor Unions have impressive investigative organizations, and the universities are slowly evolving new techniques and principles.

This brings us to the cooperative research programs of universities unassisted by industry. It is easy to point to the achievements in

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applied science only because of the fundamental researches of independent and academic investigators. Volta conducted his basic researches in electricity at the University of Pavia, Italy; Ohm at the Poletechnic School at Nuremburg, Germany; and Clerk Maxwell, from whose investigations radio has developed, at the University of Cambridge. As in electricity, so also in any field one can name universities have produced a great majority of the pioneers. This will always be so. Industry often boasts that pure science is developed in its laboratories, but such developments are incidental and largely accidental. Society must, in self-interest, support university investigators doing research upon problems that have no immediate commercial value, especially in the social sciences. The universities, however, can learn much from industry about cooperation in research. The day of the individualist in science and scholarship has all but passed. The specialist, no matter how gifted or how inspired, must depend for assistance upon other specialists.

In general cooperative researches in universities are of three types: cooperation within a discipline; cooperation between related disciplines within the same institution; and cooperation between related disciplines in different institutions. The first of these three types developed in the middle of the nineteenth century long before industrialists even heard of research. Interestingly enough the discipline was astronomy, than which, aside from dynamics, there perhaps exists no science which has less to contribute to sales, profits, and big business.

In 1843, Sir David Gill, Astronomer Royal at the Cape of Good Hope, became interested in celestial photography. With comparatively crude instruments he began to photograph the heavens. His work had such widespread influence on the science that in 1887 an International Congress of Astronomers convened in Paris with three score delegates from seventeen countries. From these meetings there developed a huge plan to photograph all stars in the heavens down to the fourteenth magnitude. The project included over twenty million stars, and eighteen observatories over the globe divided the heavens among them. Here was a project too large for any one astronomer or for any group of astronomers in a single institution. Today the International Astronomical Union sponsors in the neighborhood of forty committees set up for cooperative research.

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In the intelligence test, developed largely from the concerted effort of many specialists, psychologists have also demonstrated the utility of cooperation. The Army Alpha and Beta Tests and the Rating Scale resulted from the cooperative work of the leading psychologists of the country. Soon after the declaration of war these men were drafted by the Government to develop selective devices for choosing officer material and for assigning both officers and enlisted men to the branches of the service in which they were likely to be most effective.

More recently cooperation has grown up among the professional schools. In 1923 representatives of American schools of pharmacy met together to study their curricula. A committee and a technical expert were appointed, and in 1927 a new pharmaceutical curriculum emerged in which were pooled the experience and experimental findings of all the schools of pharmacy of the United States. A cooperative study of American medical schools under the direction of Dr. Abraham Flexner led to a revolution in medical education. Last year the dentists similarly organized for an attack upon their curricular problems.

The concept of cooperation within a discipline is spreading. In time it seems certain to become the dominant device in all the sciences. We are accustomed to think of physicists and chemists and psychologists as specialists, but as a matter of fact different varieties of specialists within the same science speak languages almost foreign to one another. Notably, President Karl Compton has cited physicists and mathematicians who historically are closely associated. He writes that "we have the experimental physicist, the theoretical physicist, the mathematical physicist, the applied mathematician, and the pure mathematician. I do not believe there is a single living scientist who could at the same time classify under all five headings." He goes on to urge cooperative research as the only method of bringing the divergent points of view of specialists to bear upon a particular problem. "Nature herself," he writes, "is not divided into a physical world, a chemical world, a biological world; she is a unit. These artificial distinctions have been introduced for convenience and because of our inability to see the whole field at once."

The second type of academic cooperation is that between associated fields within the same university. More characteristic of the

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social than of the physical and biological sciences, the Local Community Research Committee of the University of Chicago, established in 1923, is an illustrious example of this method of cooperative investigation. Through this Committee seven departments cooperate in making investigations of urban society: philosophy, sociology, anthropology, history, economics, political science, and the School of Social Service Administration. It plans researches by individuals or groups, administers available funds, and sets up subcommittees for projects. During the past eight years the Committee has investigated the Chicago Police Department in cooperation with Northwestern University, the Institute of Criminal Law and Criminology, and the Chicago Crime Commission. It has conducted investigations with the Association of Community Chests and Councils; with the Chicago Bureau of Public Efficiency which is proposing the City Manager Plan for Chicago; with the Illinois Tax Conference which is interested in the taxation of Insurance Companies; with the United Charities and the Jewish Social Service Bureau, studying the incomes and standards of living of unskilled labor in Chicago; with the City Homes Association, interested in tenement house conditions in Chicago. On its own initiative it has made studies in the ghetto, in the organization of gangs, in that Polish-Lithuanian district known as "Little Sicily," in social statistics, in the pauper laws of Cook County, in the administration of the Blind Pension Fund, in race conflict between whites and negroes in Chicago, in the bail system of the Cook County Courts, in the young cripple and his job.

Cooperation sponsored by the Committee is of two general sorts: cooperation between the Committee and another social agency and cooperation between various departments upon a single problem. One of the major projects of this latter type is the investigation of personality types. On the sub-committee for this investigation are two political scientists, a sociologist, and a psychologist. On the sub-committee for its study on causes of war are two political scientists, an historian, an economist, and an anthropologist.

An organization similar to the Local Community Research Committee has recently been established in the Yale Institute of Human Relations. Its scope is somewhat wider since it seeks to coordinate the activities of both the biological sciences and the social sciences.

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Among the biological sciences it includes medicine and among the social sciences law. The emphasis in both is preventive. Associated with the Institute are biologists, physicians, psychiatrists, sociologists, political scientists, psychologists, economists, anthropologists, and an occasional specialist from other fields. Its major project at present is a five year investigation of family factors in child adjustment. Other projects are under way. President Robert M. Hutchins of the University of Chicago played a large part in the establishment of the Institute during his incumbency of the Deanship of the Yale Law School. He was especially interested in bringing medicine and law within the scope of the Institute. At the time of the establishment of the Institute he wrote, "We are beginning to realize that law does have some bearing upon life. In criminal law, in bankruptcy and compensation cases, in public utility rate decisions, certainly the point of greatest importance is not what other courts have said, but what would be the effect of their decisions upon the individuals immediately concerned. This being the case, the lawyer should know something about the human organism. He should certainly have a knowledge of economics and sociology. We have made the discovery that law is one of the social sciences which must study law as well as the written word."

The third major type of academic cooperation, cooperation between related disciplines in different institutions, is familiar to many, and includes such work as the agricultural experiments undertaken by the Land Grant Colleges in the Southern states, the investigations carried on by the biological sciences as at Woods Hole and the Marine Biological Laboratory at LaJolla, the studies conducted by the Association of American Professors, and the numerous enterprises in education of the General Education Board and the Carnegie Corporation.

Cooperative research is of course not an open sesame to a scientific paradise. We have need of individualists, but an individualism surrounded by abundant cooperation. It may be asserted as an axiom of research that where two or three able people are gathered together in cooperative research, there also shall be that cross-pollenization of ideas that taps new levels of creative energy.

We must also recognize the insistent horticultural fact that money for research does not grow on trees and that every possible effort must

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be made to make each research dollar travel farthest. Not later than January of this year a prominent scientist, speaking before the American College Publicity Association in New York, exclaimed that: "University funds for scientific research could be reduced at least seventy-five per cent without serious harm. If scientific projects were reduced it would force better planning. The whole activity of scientific research is grossly exaggerated. It is questionable whether as much as one per cent of the alleged research now being done annually is destined to be of the slightest value to the University, to the student, or to the public."

This is undoubtedly an overstatement, but it is certainly true that American universities must give continuous attention to the development of cooperative research not only for the husbanding of their funds but also for the guaranteeing of more effective results. Jacques Loeb, famous University of Chicago scientist, was once asked whether he classified himself as a physiologist or a chemist. He replied, "I've no idea; I study problems." His response constitutes a slogan for cooperative research both in industry and in the universities.

The Thinness-Fatness of English Teachers

Being a Review of
The Thinness (and Fatness) of English Teachers and Their Theme Corrections
By Mathew Prymme, Ph.D.

WALTER BARNES
Professor of the Teaching of English, New York University

WE are describing below one of the most recent and admirable publications of Almostany University. As is usual, the review will concern itself chiefly with the technique of the study, the conclusions and their significance being relatively un-

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important. We make no apology for the simple, untechnical nature of the language, inasmuch as we are addressing laymen rather than technical scholars in the field.

This is an investigation of the correlation between the weight of teachers of composition and the amount of their theme corrections. The investigator was led, through casual observation, to set up the following hypothesis: that the heavier the English teacher the fewer the number of marks he made on pupils' compositions, or, to state it more significantly, the smaller the teacher the greater number of marks. But preliminary and tentative investigation sharpened the inquiry. It was determined (the data are not presented herewith, but are preserved in the archives of the Bureau of Research of Almostany University) that it was not the gross weight of the teachers that had most relevancy and validity, but rather the ratio between height (in inches) and weight (in pounds avoirdupois). (This is the well-known "Spearmint" formula $\frac{H}{W}$. In popular terms, it is the degree of fatness or thinness of the teacher.) The working hypothesis then becomes: the leaner the teachers the more marks they place upon the learners' compositions.

It goes without saying that, of course, the investigator had not really made up his mind about this; he merely set it up as an assumption. No capable scholar ever tries to prove anything or "make a case" by a scientific study; he is devoted to the greater task of discovering the proof. It is probably better (judging by good contemporary practices) for the research worker not to form any considered judgments on any subject until all the facts have been weighed. Many reputable scholars do not form judgments even then.

A word might be said as to how the investigator discovered the working hypothesis. This is not revealed in the study, but the reviewer is of the opinion that *possibly* (one ought never to be too dogmatic about such matters) the investigator formed empirically the assumption that fat people are good-natured, hence would not be so critical. We do not criticise such empirical assumptions so long as they are recognized as mere assumptions.

The problem, then, was to determine the correlation between the degree of fatness of the teacher and the amount of his theme correcting. (Note: this study did not concern itself with the value of

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theme corrections. That would have been difficult to compute statistically, and, moreover, there is fairly conclusive evidence that there is no value attached thereto.)

At the beginning, a careless investigator might easily have fallen into a blunder which would have vitiated* his findings. It would seem that if the investigator secured the $\frac{H}{W}$ of a sufficient number of representative English teachers, and then secured representative samplings of themes they had corrected, the correlations (individual and for the average) could have been determined. But, of course, the fault in this procedure is that it is too direct and obvious. The trained investigator always suspects that the simplest and most practical technique will vitiate his findings. In this instance, if this obvious method had been utilized, the investigation would have taken up only about twenty pages; it would have involved only two difficult formulæ, and would have had only eight tables and three graphs. Certainly, no findings derived from such meagre statistical treatment would be acceptable.

The investigator, therefore, looking around for factors to make his problem more intricate, almost immediately made the following (tentative) discovery (Note: all discoveries are tentative until they have been corroborated by statistical procedures. This is the reason why the discoveries of Admiral Byrd and Christopher Columbus have always been suspect): that the degree of $\frac{H}{W}$ varies with the temperature. Normally, this variation might be expected to conform to the Boreas-Hell Law: "The higher the temperature the more one perspires; the more one perspires, the smaller the $\frac{H}{W}$." But no observer would reasonably expect English teachers to conform to a normal curve of distribution (see Hudelover's Study, *The Ten Thousand Grades English Teachers Give to One Composition—Ancient Language Notes*, Volume CCCMIXCIV, Number 2). Besides, there was the question of whether (and if so, to what extent) English teachers perspired while they were correcting themes, and whether as their perspiring decreased their weight (if it *did* decrease his (or should one say her?) weight), they placed more marks on the theme. (Note: there is some acceptable (*very* acceptable) evidence

*The word "vitiate" is not in the Thorn-like word list, but is used in 93.01+% of the reviews of scientific studies.

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that English teachers place fewer marks on the themes after the first four hours of daily theme correction.) The investigator, therefore, worked out the heat wave quotient, and corrected for consequent *attenuation*, arriving at the following (probably new) formula: $\frac{\frac{T}{\sqrt[3]{P}}}{\frac{H}{W}}$, which he proposes to call, descriptively, the Weather-Vane or Whether-Vain formula. Then by taking the individual $\frac{I}{Q}$ (if any) of the teachers, and dividing by the individual variation, $\frac{V}{I}$, he reached the following formula: $\frac{\frac{I}{Q}}{\frac{V}{I}}$, which, by cancellation, gives $\frac{V}{Q}$ or variation quotient. Dividing the weather-vane formula by the variation quotient (probably as accurate results would have been obtained by multiplying by the variation quotient) the result is the following formula: $\frac{\frac{\frac{T}{\sqrt[3]{P}}}{\frac{H}{W}}}{\frac{W}{L}}$. Since P precedes Q in the alphabet, P and Q cancel one another by the Law of Alphabetical Probabilities, giving the simpler formula $\frac{\frac{T}{H}}{\frac{W}{I}}$, which can be further reduced to $\frac{TW}{HI}$. The probable error is here, only .01 of .1 degree Fahrenheit. This constitutes the major part of the $\frac{H}{W}$ aspect of the problem.

Space will not permit us to give the details of that part of the study devoted to the teachers' markings of themes. The investigator first found, by consensus of authority, "that all teachers are English teachers," and that "anyone can teach English"—hence included all teachers in his study. Further preliminary investigation revealed the fact that teachers always mark themes with red ink or red pencil (there are definite laws on the statute books of several states on this point). By computing the number of red pencils and bottles of red ink used during the period of investigation, and allowing for pencil points broken and ink spilled, because of increased temperature dur-

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ing the time of theme correcting, the investigator was able to employ very elaborate and complicated instruments and techniques. One interesting, though incidental finding, was that women teachers (who were divided equally between fat and not-so-fat, though not on their own statements) did not spill as much ink as the men teachers (Query: and, therefore, succeeded in getting more on the themes?) except when they were wearing red dresses or (occasionally) kimonas. It is not known at present what bearing this has on the main problem, but the investigator is to be commended for introducing this additional complication.

To abbreviate—the investigator found that 623,712 red pencils (mostly Arm and Hammer brand) and 3,167,802 bottles of ink were used up in making marks on the themes (including ink spilled en route). This allowed for 20+ marks on each page of manuscript, which accords with the findings of other studies, and with common observation, and would indicate that this is probably probable within limits and during the winter months.

Adding the 3,167,802 bottles of ink to the 623,712 red pencils, and subtracting twice the square root, once removed, of $\frac{TW}{HI}$, the investigator reaches this conclusion: (surely the only one possible under the terms of this study): that, while there is a closer correlation between thinness and the amount of theme correcting than between either fatness and thinness (probably because it is easier to secure *close* correlation with thinness); between fatness and the mean temperature (care should be taken to discriminate between mean temperature and mean temper); or between (or among) the fatness and the perspiration and the color of the dress or (occasionally) kimonas worn during the exercise of theme correcting. There is a second conclusion: that more red ink and red pencils are employed than are, in the judgment of the pupils, desirable; but this conclusion is vitiated because of the failure to limit two variables, human nature and common sense, neither of which, of course, has any place in a genuine, scientific investigation.

All in all, a competent study, ranking in usefulness with other studies fostered by Almostany University. In our judgment, the procedures and findings will add materially to the confusion and complexity of contemporary education.

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The Evolution of Art and Science in Our Bridges

A Memoir

J. A. L. WADDELL
Consulting Engineer

WHEN I entered the field of bridgework at the beginning of 1881, it was neither a science nor an art, but merely a business or trade—and a poor one at that! The succeeding half-century has seen wonderful changes therein; because bridge designing has been placed upon a truly scientific basis, and now bridge construction is a real art. The "science" has been evolved mainly in North America; but the credit for the development of the "art" should be about equally divided between America and Europe. As I have been constantly in touch with all such developments during more than half a century, I feel competent to write upon the subject.

Five decades back, improvements in bridge designing were started, desultorily it is true, by a number of independent consulting engineers who designed for some of the principal railroad systems what were then deemed large bridges. In making their plans, they were constantly endeavoring to effect improvements in detailing—and these certainly were needed! The details used in those days would make the hair of a modern bridge specialist fairly stand on end! How those structures managed to stand up is truly a puzzle—they must have done it solely from force of habit!

Among the pioneer bridge engineers of those times who thus strove for improvement of detail, there stand out prominently the names of Col. C. Shaler Smith, George S. Morison, Leffert L. Buck, Theodore Cooper, Edwin Thacher, Gen. Wm. Sooy Smith, G. Bouscaren, O. F. Nichols, J. C. Bland, A. P. Boller, and Col. Henry W. Hodge, all of whom have passed to the beyond.

It was not the individual constructions of these famous engineers, however, that did the most to establish bridge engineering as a sci-

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ence, but the part which they and other American and Canadian technicians took in the discussion of a number of papers on bridgework, thus providing on each occasion, for the use of their co-workers, a consensus of opinion to serve as a guide in designing. These memoirs and the accompanying discussions served as a series of stepping stones ever leading upward from ignorance to knowledge, and from crude, rule-of-thumb practice to scientific excellence of design and construction.

My first practical experience in bridgework was with a small highway-bridge company that did also railway-bridge building occasionally; and afterwards, whilst occupying the chair of Civil Engineering in the Imperial University of Japan, I wrote my first book, entitled *The Designing of Ordinary Iron Highway Bridges*. It was published by the Wileys in 1884, but went out of print some fifteen years later, after wrought iron had been entirely replaced by steel in bridge building. It treated of the art "as was," with only a few radical suggestions regarding improvements. Soon after my return to America in 1886, and the opening of an office in Kansas City in 1887 as Consulting Engineer, as well as Western representative of the Phoenix Bridge Company and the Phoenix Iron Company, I began to recognize the glaring defects in highway bridges. These were primarily due to two causes—cupidity and ignorance. The bridge companies were ruled by the principle "Secure for each job all the money you can, and furnish as little material as you can get away with."

In order to improve the status of highway bridge building, I issued in 1889 a small, paper-bound book entitled *General Specifications for Highway Bridges of Iron and Steel*, containing nine chapters, and including discussions by thirteen engineers. I suggested concerted action by bridge builders and a certain amount of legislation. Owing to "unscrupulousness and gross ignorance on the part of the majority of highway bridge builders," the book for some time failed to effect any improvements; but later on it played its part in so doing.

While highway-bridge development was long delayed, it could not stand still; because many of the improvements in railway bridgework were applicable also to highway structures. Again, the railway bridge engineers found it necessary to design many of their overhead crossings for highways; and, naturally, they included in these

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the same improved features that had been evolved for their railway structures. Then, too, there gradually came a demand for large and important highway bridges over our great American rivers, mainly through the evolution and extensive use of the automobile and the auto-truck; and this necessitated the employment of bridge specialists—men who gave to their work the best that was in them. The result is that most of the important American highway bridges of the present time are eminently satisfactory in respect to strength, rigidity, and even appearance.

When I made my start on bridgework, the designs for railway bridges in general were simply atrocious! They were absolutely unscientific! In England, heavy structures of multiple-intersection trusses, extravagant in the use of metal but lacking in both rigidity and strength of the connections, were in vogue; while in America, where bridges were usually let in competition by the lump sum to the lowest bidder, irrespective of all other considerations, the structures were ultra-economic of material and very vibratory, owing to the pin-connections of the trusses. These structures were theoretically more scientific than the European riveted bridges, but were too light and loose-jointed.

After five years of experience, during which unusual opportunity was given me to make a scientific study of bridge designing, I presented to the American Society of Civil Engineers a lengthy paper entitled "Some Disputed Points in Railway Bridge Designing," in which I attacked vigorously every faulty feature that I then recognized. More than forty prominent engineers presented their views upon the various points raised; consequently, the discussions contain the gist of the then-current practice of the majority of America's leading bridge specialists. The consensus of opinion thus obtained established a barrier against the repetition of any of the glaring faults that were criticized. This exposition of authoritative opinion did much to improve the status of railway-bridge designing. Since then the progress has been steadily upward, until today bridge engineering is probably the most scientifically developed of all the specialties in civil engineering.

This satisfactory advancement is greatly due to the systematic studies and efforts of the American Railway Engineering Association, which justly has the reputation of being the most effectively

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operated of all technical societies, as measured by the yard-stick of accomplishment.

In the early nineties, I was retained as Consulting Engineer to design and supervise the construction of the Northwestern Elevated, the Union Loop Elevated, and an extension of the Lake Street Elevated Railroads of Chicago. The first thing I did was to make a systematic study of all the then-existing elevated railroads, in order to discover their numerous weaknesses and avoid these in the new work, after which the structures were designed and built under my direct supervision. When the construction was about finished, I wrote and presented to the American Society of Civil Engineers, early in 1897, a lengthy memoir entitled "A Study in the Designing and Construction of Elevated Railroads, with Special Reference to the Northwestern Elevated Railroad and the Union Loop Elevated Railroad of Chicago."

Plate girders, or beams built of steel plates and angle bars, are the most common type of structure for short spans. Usually they carry their loads on top, in which case they are termed deck bridges; but sometimes, where the headroom beneath is scant, they carry their loads from the bottom flanges, in which case they are called half-through bridges.

During the last half-century there have been fewer improvements made in this class of construction than in any other type of bridge-work, the reason being that the plate-girder designs of the old days were not at all bad. The usual lengths, however, have been increased about sixty per cent, and the extreme length has been almost doubled. The longest plate-girder span yet constructed (155 feet over all) is in an approach to the Maumee River Highway Suspension-Bridge at Toledo, Ohio, designed and superintended by my present firm, Waddell and Hardesty.

A simple truss is a structural unit, composed of straight members arranged in a geometrical pattern consisting of a series of triangles. The ends of the members are either riveted or pinned together. The adjacent spans of a simple-truss structure are non-continuous over their supporting piers. In the long ago, simple-truss spans in America were of the pin-connected type. It was fine in theory but objectionable in practice, because of lack of rigidity. One bridge company made a practice for some time of building so-called "lattice girders,"

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or riveted trusses of multiple intersection. Though used extensively by one large railway system, they were not much in demand elsewhere, because of the ambiguity of their stress distribution, their excentric intersections, and their excessive weights.

In the early part of this century, however, American engineers began to design riveted trusses of single cancellation, which had the advantage of proper axial intersection of main members, combined with ample rigidity. It is true that the total weight of metal was increased somewhat, as compared with similar constructions of the pin-connected type, but the pound price for manufacture was a little less, hence the new type of structure was not really extravagant. It came to stay; for it is now the most common type of steel bridge in America. No particular engineer or bridge company was responsible for this new type, because, like Topsy, "it growed."

The improvements in detailing, a result of the studies of several of the leading American bridge specialists, constitute the most important step taken in bringing bridge designing to a science. The underlying principle adopted was to make the connecting and other details of the metalwork so strong and substantial that, if the structure were loaded to destruction, it would fail in a main member rather than in a detail—and this without any extravagant use of metal to accomplish the result. Slowly but surely the detailing of steel bridges in this country has been improved, until today it is almost perfect.

The superstructure of a cantilever bridge, in simplest terms, consists of three major parts, two side spans and a central suspended span. One end of a side span rests on a supporting pier. The other end projects some distance beyond a second supporting pier. Between the projecting ends of the two side spans, the center span is suspended. Generally the metalwork between the two intermediate piers is erected by overhang, i.e., without the use of any supporting falsework. The first cantilever bridge in America was designed by the eminent bridge specialist, Colonel C. Shaler Smith of St. Louis, Missouri, who employed it to meet a drastic governing condition in his Kentucky River bridge on the Cincinnati Southern Railway. Later on it became a short-lived fad to adopt cantilever construction in places where there existed no *raison d'être* for selecting that type, which, for short spans, is inferior to that of the simple-truss structure in both rigidity and economy of metal. The longest cantilever span in the world (1,800

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feet) is in the St. Lawrence River bridge near the City of Quebec, Canada.

Where a raging torrent has to be crossed, or where there is danger of washout of falsework during erection, the cantilever construction is called for; and, in a succession of many spans with very expensive piers, cantilever layouts will generally be found less costly to build than those composed of simple-truss spans.

Of late years, cantilevers have been widely adopted for highway bridges crossing large rivers where long spans are needed because of either economy in first cost of structure or the requirements of navigation. For many years my 660-foot span of the cantilever bridge, built about 1890, over the Colorado River on the line of the Atlantic and Pacific Railway (now a part of the Atchison, Topeka, and Santa Fé system), held the American record for span-length; but of late it has been surpassed several times. In 1929, Waddell and Hardesty completed the Cooper River highway bridge at Charleston, South Carolina, having a main span of 1,050 feet. In the Blackwell Island Bridge over the East River in New York City, there is a cantilever span of 1,182 feet. In times of the distant past, the building of a long-span cantilever bridge was deemed by the public to be a great feat; but today it is merely a matter of routine, calling for very little comment by either the profession or the general press.

In nearly every case, a steel-arch structure is more pleasing to the eye than a simple-truss bridge; and it is generally less expensive. Why then is not that type more common throughout America? To this query there are several answers:

1. A dozen years ago almost nothing was known about the comparative economics of arch bridges and simple-truss bridges. This fact I ascertained at that time by an exhaustive correspondence with practically all of the bridge specialists of North America.

2. There are no standard diagrams for weights of steel-arch bridges as there are for the other types of layout; hence there is an uncertainty in the computer's mind about the total weight of metal that will be required. Moreover, the weight of metal is a function of the ratio of rise to span-length; and this varies greatly at different crossings. Again, the pound price of manufacture is generally a little greater for arches than it is for trusses.

3. The calculations for an arch-bridge are quite complicated and

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elaborate; hence only well posted computers will tackle such work. Moreover, the average man does not like to undertake anything new to him, if so doing be avoidable.

4. Figuring the stresses in an arch bridge involves several times as much labor and expense as does the making of the computations for an equivalent simple-truss structure.

5. At many sites the foundation conditions preclude, or should preclude absolutely, the use of the arch bridge. Often the subsoil is incapable of resisting horizontal thrust, a force that is inherent in the arch.

In a paper of mine entitled "Economics of Steel-Arch Bridges," presented to the American Society of Civil Engineers and published a decade ago in its *Transactions*, I gave sufficient data for any expert bridge computer to determine all that is necessary for him to know, in order to settle the economics of any arch layout, and to compute quickly the weight of metal required; hence there is now no excuse (except laziness) for any bridge engineer to dodge the adoption of an arch layout, where such would serve the purpose satisfactorily in every particular.

The most outstanding examples of steel arch bridges in America are the Hell Gate Arch Bridge at New York City, designed and engineered by Dr. Gustav Lindenthal, Consulting Engineer, and the Bayonne Arch Bridge over the Kill von Kull in the same city, the work of Dr. O. H. Ammann, Chief Engineer of the Port of New York Authority. The last mentioned is the longest arch span in the world, being a trifle longer than the main span of the great arch bridge just completed across Sydney Harbor, Australia.

The evolution of reinforced-concrete bridges originated in Europe, mainly in France and Germany, and was fairly well developed there before that type of structure was seriously considered in America. The great leaders in this research in France were the Coignets (*père et fils*), Considère, Résal, and Séjourné (four of them old personal friends of mine, by the way, and all gone but the last mentioned); and in Austria and Germany, Melan, Mörsch, Mohr, and Schönhöfer.

It was not until the middle nineties that reinforced-concrete bridge-building began in this country. Fr. von Emperger and Edwin Thacher were the pioneers. They started the snow-ball rolling, and

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it soon attained to large dimensions; for numerous bridge engineers and contractors rapidly entered the field. Many investigations, mainly of a mathematical nature, were made, putting the art upon an increasingly scientific basis, until today the American practice is at least on a par with the European. Most of this American development was the work of comparatively young engineers and technical professors, among whom might be mentioned as outstanding, F. W. Taylor, S. E. Thompson, F. E. Turneaure, E. R. Maurer, G. A. Hool, and A. N. Talbot.

The early development of suspension bridges in America was mainly the work of the Roeblings, father and son; and their greatest construction for a long time was the old East River Bridge at New York City with a central span of about 1,600 feet. For a number of years after its completion, the only suspension bridges built in America were small affairs, excepting one over the Niagara River of about an 800-foot span; then two more were called for over the East River close to the Roeblings' bridge and of about the same span-length.

Suspension structures are not suitable for steam railroads, excepting in the case of spans so long as to be prohibitory for cantilever construction, hence none have been built here; but, with the development of the automobile and the provision of important roads for its use, there has come a demand for several very long span structures, including one of 1,200 feet over an arm of Narragansett Bay at Mount Hope, Rhode Island, one of 1,632 feet over the Hudson River at Bear Mountain, one of 1,750 feet over the Delaware River at Philadelphia, one of 1,850 feet over the Detroit River at Detroit, and one of 3,500 feet (up to date the longest span in the world) over the Hudson River at New York City. Studies have been made for a 4,200 foot span over the Golden Gate at San Francisco, a structure that has a fair chance of being built in the near future; and there has been some talk about a still longer span over the Narrows between Brooklyn and Staten Island, but the prospect of its materialization is extremely doubtful.

In 1926, I prepared for the American Society of Civil Engineers a memoir entitled "Quantities of Materials and Costs per Square Foot of Floor for Highway and Electric-Railway Long-Span Suspension Bridges." In it there are diagrams of quantities of all the materials in the various parts of such bridges, having main-spans

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varying in length from 500 feet to 5,000 feet—also detailed cost estimates for bridges with main-spans of 6,000 feet and 7,000 feet. My computations indicated that, while spans of these two great lengths are entirely feasible, it would not be economic to build them because of their great costs, which were, respectively, $180,000,000 and $300,000,000.

Much valuable information has been developed of late years concerning the designing and construction of long-span suspension-bridges by the designers of the before-mentioned structures, viz., the following consulting engineers, Dr. O. H. Ammann, Mr. Howard C. Baird, Dr. Ralph Modjeski, Mr. Leon Moisseiff, and Dr. D. B. Steinman. These gentlemen have effected large economies in the building of highway suspension-bridges, reducing greatly the weight of metal in the stiffening trusses—even to zero in exceedingly long spans—without sacrificing either strength or rigidity. It is probable that, because of these economies, a fair number of such structures will be called for in this country in the not very distant future.

A half century ago practically all of the movable spans of North America were of the swing-bridge or horizontally revolving type. It served its purpose fairly well in spite of several drawbacks, of which the principal ones were:

1. Slowness in turning and in locking into place (both horizontally and vertically).
2. Occupation of much valuable ground outside of the right-of-way.
3. Obstruction to flow of water by reason of the large pivot pier.
4. Great cost of maintenance because of expensive and perishable draw protection.
5. Necessity of tearing down the span and putting in another to replace it, when it becomes mandatory to increase the carrying capacity.

In the late eighties and early nineties several new types of movable spans were advocated, including the pull-back draw, the jack-knife span, the bob-tail swing, the horizontal-folding draw, the shear-pole draw, the gyratory lift, the *transbordeur*, the double-cantilever swing, several types of bascule, and the vertical lift. For the evolution and introduction of the last-mentioned type, I am the responsible party. Of all these innovations, only the bascule and the

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vertical lift survive, the former for short spans and the latter for longer ones, the dividing length being in the neighborhood of 150 feet.

A bascule is a span composed of one or two leaves that tip up; and a vertical lift is a glorified elevator. The other types mentioned, being now defunct, require no descriptive explanation other than as given in their names, excepting that a *transbordeur* is an aerial ferry suspended from an overhead bridge on which a set of trucks travels.

Much grey matter has been expended on the study of movable spans—very likely far more than was necessary, because the defects and the lack of economy of a number of the types should have been self-evident. While it is true that swing spans continue to be built, there is no good reason therefor; because they are slower of action and, when everything is duly considered, more costly. The modern vertical lifts and bascules have been brought to a high state of perfection and efficiency by American engineers.

Substructure development has taken place in both Europe and America—probably mostly in the latter by reason of the far greater number of bridges here built. The principal improvements therein of the last half century are the following:

1. Development of the open-dredging process for deep foundations.
2. Greater depths attained with safety by the pneumatic process.
3. Evolution of the steel-sheet-pile cofferdam, and its steadily increasing feasible depths.
4. Exceedingly long wooden and reinforced-concrete piles for foundations.
5. Driving of heavy metal cylinders to bed-rock at great depths, then excavating the earth and boulders therefrom, and filling with concrete.
6. Spread (or floating) foundations.
7. Pile-driving by water-jets to unusually great depths.
8. Substitution of concrete (both plain and reinforced) for coursed masonry.
9. Reinforced-concrete retaining walls.

The steel era for bridgework started in the late eighties and has continued ever since; but early in the present century the use of alloy

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steels began to be considered. The first important move made therein was when the International Nickel Company, about the end of 1903, retained me to make an extensive series of comparative tests and an exhaustive research on nickel steel for bridge building. Although the prosecution of the tests was unnecessarily delayed, the initial results were so satisfactory that it soon became known by bridge experts that the alloy was eminently suitable, and that it could be stressed much higher than carbon steel; consequently they immediately began using it in a few important long-span structures.

Soon after the employment of nickel steel in bridge building became firmly established, the price of nickel increased to such an extent that there was no longer any economy in using it for bridgework. It was not bridge building that augmented the cost of the alloying element, but a big demand for it in the manufacture of metal for cannon and ship armor. It is only within a few years that the cost of nickel has diminished to such an extent as to render nickel steel again available for bridge construction.

Meanwhile, there had been put on the market both Mayarí steel and silicon steel. The former, made from a natural alloy of iron, nickel, and other elements mined in Cuba, was quite satisfactory, being intermediate in strength between nickel steel and carbon steel; but its production was controlled by a single company, which has since ceased its manufacture (rather a pity, in my opinion); and it cannot now be procured. The latter alloy (silicon steel) appeared at first to some engineers to be simply high-carbon steel with a little extra silicon added, in order to give it a distinctive name; but such was not the case, for it is a true alloy and a useful one in bridge building, having nearly the same strength as the Mayarí steel. It has become a permanency; and is now being largely employed for both railway and highway structures.

I have written many papers for engineering societies and international conventions on the subject of alloy steels in bridge building, and may write more; for I deem that in that line of advancement the end is not yet reached. For years I have advocated the making of an exhaustive research on molybdenum steel for bridgework, in the hope that the alloy will prove to be superior to and more economic than nickel steel, especially for very long span structures; but the chief producers of molybdenum are not yet prepared to undertake

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such an investigation, although they have several times expressed themselves as being favorably inclined thereto.

My direct experience in bridge-shop work began in 1886. At that time such work was crude and uneconomic; but since then it has been advancing steadily and satisfactorily, keeping well up with the development of bridge designing and erection. Today, in my opinion, there are nowhere in the world any large shops of any kind that are better or more economically handled than the principal bridge shops of the United States and Canada.

Great strides in bridge erection have been made in this country during the last half century—more than keeping pace with the increase in sizes of structures and in the tonnage of manufactured metal therefor. This statement can readily be verified by comparing the rates of progress of construction of the Roeblings' East River Bridge and the lately completed George Washington Bridge over the Hudson River, on which structure also the Roeblings were engaged as contractors for the cable-work.

In the old days, bridge erectors took too many chances, with numerous accidents and some serious disasters as a result; but this tendency is steadily being overcome, in spite of the keen competition that continues to exist among bridge contractors. More precautions are being taken today against erection troubles, and more profound study is now being given to possible eventualities than was the case in times past. Practically all of the serious accidents to bridges during erection within the last half-century could have been foreseen and avoided, had sufficient time, money, and care been expended on a study of the erection problems involved.

Electric welding in bridge building is a very recent innovation, and is still in its infancy. It has proved its value and reliability in steel-building work; but many old engineers still look at it askance for bridge construction. However, I believe the process has really come to stay; for it can now be relied upon to supplement riveting, even if not to supplant it entirely. It is going to prove very serviceable in strengthening the riveted connections of old bridges.

During the last fifty years, great and important advances have been made by Americans in the determination of stresses in bridges of all kinds; and these improvements are mainly due to certain professors who have specialized in bridgework, among whom the most

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famous were De Volson Wood, J. B. Johnson, Dr. George F. Swain, Dr. A. J. Dubois, and Mansfield Merriman, all deceased. The most prominent of the living writers on bridge theory are Dr. William H. Burr, Professor Henry S. Jacoby, Dr. F. E. Turneaure, Dr. Milo S. Ketchum, Professor Hardy Cross, and Mr. Leon S. Moisseiff.

The issuing from time to time of standard specifications for the designing, manufacture, and erection of bridges has done much to advance the science of bridgework, in that it has always brought the general knowledge thereof up to date and even occasionally slightly in advance of the times. At first this writing was done by individual consulting engineers and bridge building companies; but the specifications of the latter were essentially biased in favor of the company preparing them. Railroad companies, too, issued specifications for their own bridgework; and, in consequence, these were very restricted and often rather one-sided, due to an endeavor to hold the contractor's nose too hard against the grindstone.

The specifications of the consulting engineers were much more free from bias, although some of them contained personal fads that were not justified, such as confining the competition to some particular type of truss; but, on the whole, they were very good and serviceable.

In the long ago the criterion of excellence of any bridge specification was its shortness. This idea emanated from "the party of the second part"; because the shorter the specification the easier it was to dodge troublesome requirements and to work in extra charges.

Some of the most effective bridge-specification writing in America has been done by committees of certain of the leading technical societies, prominent among which are the American Railway Engineering Association and the American Society for Testing Materials, on the structural committees of both of which I served for many years.

In days of yore many American bridge designers used to think that they were working on economic lines when they cut out the last possible pound of metal from a design made on fixed (but crude) specifications. On the contrary, they were violating the first principles of economics in so doing, because they were thus building light, vibratory, and short-lived structures. It took many a long year to get this false notion out of their heads.

Among the salaried bridge engineers of the railroad companies,

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there was at one time a swinging back of the economic pendulum; for after a while they began to think that the more metal they put into a bridge, the stronger and more durable it would be, no matter how ineffectively the said metal was placed; consequently, for several years, the railroads wasted material (and, therefore, money).

The only valid excuse for this extravagance is that at that time there was almost nothing of much value written on the subject of economics in bridge designing and building. In truth, I was about the only writer on the subject; and, until after I had accumulated my experience, there was but little that I could say. My first book, *The Designing of Ordinary Iron Highway Bridges*, written in Japan during 1883 and published by the Wiley's at New York in 1884, contained a chapter of half-a-dozen pages on "Economy." That chapter reproduced a mathematical demonstration by Ashbel Welsh, past President of the American Society of Civil Engineers, showing how "to find the comparative economy of two bridges of different cost and durability, that will answer the same purpose equally well while they last." This was the only American writing that I ever heard of on bridge economics that antedates my numerous contributions to the subject. It was sound in principle and is useful today—more than half a century after it was published.

As a conclusion to this section, I beg to repeat a statement made in 1930 at the Summer School of Engineering Teachers, held at Yale, where I lectured:

"I desire to make an earnest, urgent appeal to each one and all of you teachers of engineering, to the effect, that, in every course where such procedure is feasible, you constantly inject into your instruction the idea of economics, impress upon your students' minds the fact that this feature of technics is today the most important one in all the branches thereof, and that the most successful engineering practitioners of the future are sure to be the ones who recognize and apply the principles of economics in all the technical work they perform."

Beauty is often termed "the individual's conception of perfection." As individuals vary, so also do the standards of perfection. Evidently, beauty is an intangible quality—something that cannot be produced by mathematical formulæ.

Every bridge material can generally be adapted to produce a beau-

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tiful form, with but little extra cost, if the engineers so will it. The American engineer's exposition of beauty lies not in clothing his structural shapes with a frosting or trimming that conceals or disguises the important framework, but in making the bare outlines of the framework itself pleasing to the eye. In this he differs radically with his European colleague, who endeavors to improve the appearance of his structures by the addition of copious ornamentation. It is true that for a long time European engineers produced more æsthetic structures than did their American brethren; and for this there were two valid reasons—they had comparatively few bridges to build, while we had many; and their clients were rich, while ours were usually impecunious. It used to be considered almost a crime for an American engineer to spend a few extra dollars on beautification. The result of such a policy was the filling of our cities and towns with structural eye-sores. But as our country became more wealthy, the people's taste began to improve; and gradually there arose a demand for better looking structures. The American bridge experts rose effectively to the occasion and beautified their productions, until today we have bridges that compare favorably with the finest appearing structures of Europe.

A single steel member is not in itself a thing of beauty; but when combined with other similar units to give the bold, majestic lines of the Hell Gate Arch, or the graceful, airy sweep of the suspended span of the George Washington Bridge, then that member has helped to create an æsthetic whole—a memorial that is a joy forever, not only to its designer but also to the laymen of the streets.

It must be confessed that the short-span, steel-truss bridge is inherently ugly, and is exceedingly difficult to treat satisfactorily from an architectural standpoint. In recent years, though, that type of structure on our highways has been largely replaced by the reinforced-concrete arch bridge. Concrete is admirably adapted to æsthetic treatment because of the ease with which it may be poured and set to any desired form. In consequence, bridge architecture has made unusual strides since the advent of concrete as a material for superstructure. The Arroyo Seco arch bridge at Pasadena, California, is universally conceded to be a striking example of the application of æsthetics to harmonize a reinforced-concrete bridge with an unusually beautiful landscape.

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Humanizing Education

HAMILTON HOLT
President, Rollins College

FOR generations we have been trying to educate our students by the methods of war rather than those of peace. The theory animating this system is that the younger generation is wrong —that it is a culprit on trial for misdemeanor or even for crime. The entire system of marks, grades, quizzes, final examinations—the lock-step of our marking and grading systems with its final "criminal trial" in the form of an examination which the student must pass in order to be allowed to continue his work, puts him in the light of a prisoner, or a soldier in the ranks of a system of militarism which is Prussian in the rigidity of its codes.

How can there be any sense of mutual understanding or equality between prisoner and jailor—between officer and private? The point of view of the younger generation is entirely disregarded—in fact, it isn't even admitted that it has a point of view. There is no sense that the quest for knowledge is a joyous adventure, undertaken jointly, the older men rich in experience, knowing the lay of the land which must be traveled, acting as guides for the younger people whose senses must be trained, whose minds must be developed and whose imaginations must be stimulated in order to learn to travel the way alone.

At Rollins College we are trying to get away from this system which seems to me stultifying to the teacher and subversive to the development of the creative faculties of the student.

As I look back upon my student days at Yale and Columbia I realize I got almost nothing from my professors, for there was no provision for meeting them in a personal way. I gained nothing of the poise, wisdom, and nobility that come only from association with older, abler, and nobler men. What I got from college was mostly what I acquired by my own unsupervised study and from the intimate association with my classmates.

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Humanizing Education

Up to seven years ago when I became president of Rollins, my point of view toward education, naturally, was that of a layman, but I knew very definitely what I did not want in the way of educational methods, for I had suffered under the lecture system and the recitation system for too many years not to know how seriously they may handicap any real flowering of a student's mind, how eagerness may be replaced by indifference, and finally by boredom.

Let me illustrate: I studied Latin and Greek for seven years in high school and college under the day-by-day system of assignment and translation, but at no time during that period did I have the vaguest notion of what I was supposed to get from those studies in the end—whether beauty of literature, greatness of moral concept, knowledge of antiquity, or training of the mind. No one ever told me. Neither did I learn syntax, which I did know I was supposed to learn. But its dullness was insupportable. The result of my Latin and Greek studies is that now, after seven years of it, I cannot translate the Latin dedications on public buildings or read the Greek word interpolated by the author in a crucial point of his text. As far as Latin and Greek are concerned, those were wasted years.

But, through a collecting instinct, I possess a Latin and Greek library representing the accumulation of several generations of scholars. I had leisure the summer before last, for the first time in my life, to spend time delving into its contents. I read in translation the *Iliad*, *Odyssey*, *Æneid*, *Odes* of Horace, the plays of Euripides, Ovid's *Metamorphoses* and his *Love Letters*, Plato's *Dialogues*, Juvenal's *Satires*, and some of the Orations of Cicero. I found them fascinating, human, charming; they dealt with life and the essence of life. And I was filled with mingled rage and delight—delight at discovering these literary treasures; rage that I had not been helped to discover them forty years ago.

At Rollins College the faculty has been the first great problem to be solved. In making replacements and in adding to the staffs of growing departments we have sought, not simply teachers, but inspiring teachers. In selecting them we have disregarded the modern fetish for research and have weighed not only the ordinary and official recommendations as to a man's teaching ability, but have given especial heed to the opinion of his former students. If the verdict of a prospective teacher's former students was "thumbs down,"

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we would not consider him no matter how scholarly the man might be or how many books he might have published.

I have adopted the policy of inviting only those professors to join our circle who have the nobility of character and gift of teaching which alone can inspire youth.

If students are entitled, as they undoubtedly are, to professors who can teach, are not professors equally entitled to students who can be taught? How shall we get that kind of student? I have no patience with the prevailing methods of super-salesmanship whereby, through personal visitation to high schools or through seductive advertisements, we entice students good, bad, or indifferent to college. Under this policy we get not better but only more students. Nor have I any patience with tests that simply determine the information a student may be able to retain in his memory a day or two after having crammed for that particular examination. Personally, I would admit to Rollins any student above the intelligence of a moron and mature enough to carry on college work, provided only he showed capacity for improvement. It ought not to be vital to success in college—it certainly is not in after-life—whether one improves slowly or quickly. We all have to start at some particular time and place and do the best we can with the faculties God has given us. He who keeps improving will surely amount to something, and he is worth educating.

Such considerations as these emboldened Rollins six years ago to abolish the old-fashioned lecture and recitation system and to shift its emphasis and its focus of responsibility from faculty and administration to the students.

The lecture system is probably the worst scheme ever devised for imparting knowledge. It assumes that what one man has taken perhaps a lifetime to acquire by the most painstaking observation, hard thinking, and long-continued reflection, can be relayed or spoon fed to another man who has not gone through a like process. We are all familiar with the lecture system at its worst as in medical schools where the students are compelled to buy digests and, at their own expense, hire outside tutors to teach them.

The recitation system, though not nearly as bad as the lecture system, is still almost a complete reversal of what the relation of teacher and taught should be. Under the recitation system it is assumed that

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a student spends two hours in the preparation for a lesson and then recites in a class for an hour. Everyone who has been to college, however, knows that these assumptions are false. Investigations of the alleged study habits of American college students show that about ten per cent of the students study two hours in preparation for a recitation, another ten per cent do not study at all, while the intervening eighty per cent spend anywhere from twenty to fifty minutes in preparation for class.

In the first place, allowing a student to go to his room and study by himself is a direct invitation to procrastination and shirking. Moreover, the size of present classes makes it impossible for a student to be called upon more than once in a recitation. This puts another premium on shirking. If a student has been faithful, however, and has learned his lesson in his room, he has manifestly surmounted his obstacles by himself. What good, therefore, was the professor?

Another evil of the recitation system is this: If a student was what the name implies, he would be asking the professor questions rather than the reverse. The professor knows. The student does not know. One would naturally assume, then, that in order to transfer knowledge from where it is to where it is not, the student would do the quizzing. But as everyone knows, the professor is the quizzer.

Thus, under the recitation system, the professor becomes a detective trying to find out the student's degree of unfaithfulness, and the marking system is the measure of insufficiency. Thus, marks rather than the mastery of his subject tend to become the objective.

The Rollins substitute for the paradoxes of the lecture and recitation systems is the so-called Conference Plan. Under this plan, the students spend their time in study, in conference with the professor, in small groups of discussion, in writing up class papers, in preparing outlines, and such other matters incident to the mastery of his subject. The relation of the student is primarily to the professor and not to his fellow students. Under the two-hour plan, faithfulness on the part of the student is insured and the mass system of education is abolished. It has for its objective a constant, continuous, cooperative, democratic, friendly, and human relationship between teacher and student. The theory behind it is that since the student's mind is immature, he most needs the professor when he is preparing his lesson, not after he has learned it or failed to learn it. He ceases

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to be a passive recipient of information as he is during the lecture system, or a target for the teacher's quizzing as he is during the hour of recitation. He becomes, instead, a partner in a joint quest, in which the teacher, it is true, acts as guide, but to which the student must contribute eagerness to learn and the reaction of his own mind to the facts and ideas to which he is exposed.

The class is carried on as a unit at the first of the year in order that the professor may discover the capabilities and previously acquired knowledge of the various members of his class. He is soon able to distinguish the well-grounded from the poorly-grounded and to give the former advanced work while the latter are being reviewed and instructed in the rudiments. In this way the brilliant student is not punished for his brilliance by having to hear constant reiteration of what he already knows.

The Rollins Conference Plan insures faithfulness of study on the part of the student because the professor has little difficulty in detecting the shirk. It tends to make the professor, instead of a lecturer and quizzer, a "guide, philosopher, and friend." It abolishes the "lock-step" or mass system of education and permits each student to go ahead as far and as fast as his ability will allow. It permits the student and professor to meet, man to man, under such conditions of information and cooperation as are found prevailing in after life.

In other words, we don't spoon feed our students with doses of information. We indicate the sources of accumulated knowledge and wisdom which have come to us through the ages; we place guides in the guise of professors whom we have chosen because of their aptitude for, and delight in, working constructively and creatively with young people; and because it is in the air at Rollins, the students themselves acquire an enthusiasm for learning which is equal to that of the reporter in tracking down a good story.

Having worked out "How to study," we have now undertaken at Rollins the question of "What to study." On the recommendation of committees of the faculty and the students appointed to study curriculum changes, Rollins this year adopted a new plan which might well be termed "individualization in education."

Under this plan, Rollins again departs from standardized college practices. The student body is separated into an Upper Division and a Lower Division, instead of the customary four yearly divisions. New

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methods of evaluating a student's work have been evolved, grades and credits have been abandoned, rigid course requirements have been abolished, and the time element in obtaining a degree has been eliminated. The work of the student has been placed on an "accomplishment" basis rather than on a specified term of residence and the passing of a heterogeneous group of unrelated subjects.

Provisions of the new plan compel the student to take the initiative. The slow student will not be hurried through a course faster than he can assimilate it. The quick student will not be held back by his slower mate.

The purpose of the Lower Division is to provide a place where the student may round out and fill in the gaps of his preparatory school education, as well as to provide a foundation for the more specialized work of the Upper Division. The Lower Division student will also be given time and opportunity to inaugurate work in his special field of interest and to develop interests and appreciations other than those specifically outlined in his entrance requirements.

In the Upper Division the student takes the necessary courses to achieve this end, specializing on those subjects in which he has a particular interest or aptitude, or which fulfillment of his ambitions makes desirable. The plan calls for no required courses but prescribes definite accomplishments for each student. The college will offer, and probably the majority of students will take, courses in which they will acquire the materials necessary for the satisfaction of the requirements; but there is nothing to prevent a student from satisfying the requirements by purely independent work or by work carried on under the informal guidance of a member of the faculty.

No minimum time for completing the work of either division is stipulated. Perhaps the average student will remain for four years; brighter students will finish earlier; slower students will take longer. A student who cannot or does not complete the work of either division within three years, however, will be considered unfit for college work and will be dropped unless he presents some unusual explanation which is acceptable.

The great point is that we are trying the same thing in education that the governments are trying in settling international disputes —that is, persuasion, mutual understanding, arbitration, rather than ultimatums and warfare.

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Washington, Capitalism, and Nationalism

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GEORGE WASHINGTON died in the year 1799, more than one hundred and thirty-two years ago. At the time of his death his fame was already widespread and secure, and the interminable series of laudatory orations which he so well deserved began at once. During the intervening century and more, tireless orators have struggled, with increasing difficulty, to pay adequate tributes of eloquence to this great man. One difficulty, which has grown with the years, is that of saying anything which has not already been said several hundred times before. Happily, however, so far as Washington's birthday speakers are concerned, patriotic American audiences desire nothing so much on these occasions as the robust repetition of the resounding platitudes of adulation with which they have long been thoroughly familiar. Indeed they are likely to resent as inappropriate and out of order the introduction of any other than the usual facts and points of view about our foremost national hero.

However childish may be this taste for a reiteration of the obvious, it is not peculiar to America. It is characteristic of most nations to exalt, even to deify, their most popular heroes, and to wish said concerning them only words of praise, fit for the commemoration of demigods. Such words nourish a vigorous national pride, and they are supposed also to fire the hearts of impressionable youth with a reverent determination to follow worthily in the footsteps of the great departed. Whether it be the children of the obscure little state of Albania, thrilled with worshipful admiration for their warrior hero, Georges Scanderbeg; or the soldiers of militant Japan, pausing in their ruthless warfare about Shanghai to adore the spirit of an ancient emperor; or the patriotic citizens of the United States, mobilized for a bicentennial veneration of the immortal George Washington; it is clear enough that hero worship is common to them all, and that this is a potent force in the life of every nation. That this

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force can be of incalculable worth to any people is widely recognized. That it may also do them incalculable harm seems to be less generally understood and to stand in need of some emphasis at this moment.

In our own United States, for instance, it may seem almost sacrilegious to point out that the influence of George Washington may be productive of harm as well as of good. In his case, as in those of many other national heroes, it is entirely possible so to misuse his fame and misapply the lessons from his life as to produce results which he himself, if living now, would be the foremost in deploring. For example, Washington is commonly regarded as a steadfast supporter of political conservatism. The weight of his great name is often thrown into the scales of controversy against proposals for any radical modification of existing governmental institutions. Probably a great majority of the citizens of the United States today would deny with indignant amazement the assertion that the career of George Washington resembles in several fundamental respects those of such modern radicals as the Indian Nationalist Gandhi and the Russian Bolshevik Lenin. Yet these three world figures have at least this much in common: each of them defied the lawfully constituted authority which ruled his native land and, at the imminent risk of war and bloodshed, sought to overthrow the established political system and to replace it by one which most intelligent persons throughout the world condemned as, at best, a rash experiment, offering slight hope of success and great probability of disaster. In winning independence for the new American republic, Washington was anything but a conservative; he was, of course, a revolutionary, quite as truly as Lenin and Gandhi were revolutionaries. He was, however, a revolutionary of the eighteenth century, and therefore his ideas differ greatly from those of the revolutionaries of the twentieth century. It is this difference which deceives many into believing that he was a conservative. It is a misuse of his fame and a misapplication of the lesson of his life, to count him steadily on the conservative side of current political controversies.

One of the easiest and most common perversions of the Washington influence is that based on his oft-quoted advice to eighteenth century America to steer clear of foreign entanglements and seek safety in a policy of diplomatic isolation. How often and how solemnly are his warning words quoted, and in how many different ways is the

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weight of his influence brought to bear against any steps toward international cooperation on the part of twentieth century United States! Yet Washington was giving advice concerning world conditions of the eighteenth century, with which he was competently familiar, and not concerning the unforeseeable conditions of the twentieth century. There is no reason to believe that he wished to fix the foreign policy of his country for all future time, nor that he would have given similar advice amid the conditions of today. Indeed, if we may imagine the disembodied spirit of our great first president still watchful and solicitous for the welfare of the republic he founded, it is easy to believe him sorrowful for the stupidity, or indignant at the insincerity, which prompts so many of his countrymen today to follow blindly the advice which was so helpful in 1797 and is so harmful in 1932. "It would be ironic," says a recent editorial in a powerful newspaper, "if, in the year in which all America is paying homage to its greatest citizen, the advice of Washington on the conduct of our foreign relations should be flouted." To which it may be fairly replied, "How infinitely more ironic it would be to follow the advice which, so far as our present circumstances are concerned, Washington never intended to give."

For, after all, Washington was not essentially an isolationist. He was, rather, a cooperationist when there was opportunity for cooperation on anything like a basis of equality. The historical evidence for this is abundant and striking. There were plenty of isolationists in Washington's day, but he was not one of them. Others feared to enter into a league of sovereign states and risk the curtailment of separate independence, but he actively supported such courageous cooperation. For instance, when Washington and other supporters of a league were proposing to bring order out of chaos by adopting the present Constitution of the United States, it was Patrick Henry, famed and patriotic son of Virginia, who roared in dismay that, "This government subjects everything to the Northern majority. We thus put unbounded power over our property into hands not having a common interest with us. Sir, this is a picture so horrid, so wretched, so dreadful, that I need no longer dwell upon it." Against this nightmare of Patrick Henry, it was Washington who directed soothing words and calm reasoning in the following persuasive letter, seeking to enlist Henry's support of the new League and Constitution.

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"Your own judgment will at once discover," Washington wrote, "the good and the exceptionable parts of it; and your experience of the difficulties which have ever arisen when attempts have been made to reconcile such a variety of interests and local prejudices as pervade the several States, will render explanation unnecessary. I wish the Constitution which is offered, had been more perfect; but I sincerely believe it is the best that could be obtained at this time. . . . From a variety of concurring accounts it appears to me that the political concerns of this country are in a manner suspended by a thread, and that the Convention has been looked up to by the reflecting part of the community with a solicitude which is hardly to be conceived; and, if nothing had been agreed upon by that body, anarchy would have ensued, the seeds being deeply sown in every soil."

Here we see the cooperationist Washington energetically at work. When the time was ripe for his beloved homeland, the sovereign State of Virginia, to enter upon entangling alliances with the foreign states of Pennsylvania, Massachusetts, and the other ten, he boldly led her forward out of a traditional isolation and into that close cooperation which had become essential to the welfare and security of all. To be sure Washington did, in the eighteenth century, advise that the infant United States of America avoid active participation in the quarrels of the adult and relatively gigantic nations of Europe. To assume from this, however, that he would advise a similar isolation for the adult and gigantic United States of the twentieth century is to disregard altogether the established fact of his cooperative and progressive action in leading Virginia to enter the League of American Nations under the Covenant of 1787.

Another common misuse of the influence of Washington consists in quoting his words when they happen to reinforce the views of the quoter, but denying equal publicity to those words of his which antagonize such views. Thus, his warning against foreign entanglements is so often quoted as to be familiar to all, but his equally vigorous aversion to the rise of political parties is much less widely known. Many who urge us to follow his advice on foreign policy as perennially applicable and an evidence of Washington's almost superhuman prescience would, in all candor, be forced to admit that his warnings against political parties were almost absurd. However bad these parties may sometimes become, the almost universal experience

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of mankind has shown that they are as indispensable to popular government as the weather is to agriculture. Washington's failure to grasp this fact shows that his political intelligence had the usual human limitations, and that his advice on public affairs should be, like that of other statesmen, subjected to critical examination.

Toward the major governmental problems of his time, nevertheless, Washington usually showed a competent liberalism, an attitude of hospitality toward changes, even fundamental ones, if they gave promise of general betterment. Largely the economic and political world he lived in was patterned after the systems of an earlier period: systems which were on the eve of fundamental modification or replacement. The economic system of his age and region was localism, the production of commodities by household industry, for sale in a nearby market; yet signs were multiplying that this system was soon to change and that commodities would more and more be produced by machinery and factory labor for sale in markets increasingly widespread and remote. The political system of his day was imperialism, the ruling of colonies by a mother country for the interest and welfare primarily of that mother country; yet many signs were evident which foretold a changed future in which colonies would assert their right and determination to be ruled primarily each for its own welfare. So far from being hostile to these signs of change and readjustment, Washington showed an open-minded hospitality toward them. The progress of industrial and commercial capitalism he facilitated by friendly tariff and financial measures. The exchange of colonial for national status he promoted with unflagging zeal, even at the price of armed violence and rebellion. His face was steadfastly set toward a better economic and political future, and he dared to experiment with new and uncertain systems, namely, industrial capitalism and republican nationalism, when the old systems seemed no longer adequate to meet the needs and desires of a changing world.

It is this quality of open-minded hospitality toward economic and political experimentation that gives to the example of Washington an immediate significance in the year 1932. By this example we are urged, not necessarily to support the systems which he supported, but rather to maintain an open-minded hospitality toward experiments for their betterment. By way of illustration, in the following brief survey and criticism of the systems which dominate us today, an at-

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tempt is made to view our world of the twentieth century in somewhat the same spirit as that in which Washington seems to have viewed his world of the eighteenth.

Largely the economic and political world of 1932 is patterned after two great systems: capitalism and nationalism. These systems have been tested by many generations. They proved measurably adequate for meeting the needs of the nineteenth century. The twentieth century, however, has subjected them to such unprecedented strains and stresses that their continuing adequacy is gravely doubted by many thoughtful persons. Their outright destruction would imply upheaval and catastrophe; their deflation and adaptation, however, need produce no such calamitous consequences.

The rational deflation of capitalism would leave almost unimpaired the great driving power of the urge to acquisitiveness, though it would transfer some of its present inordinate gains from the individual to the community. Capitalism has long displayed two conspicuous merits: a powerful stimulus to individual effort, and an enormous productivity. Alongside these, however, there have been two equally conspicuous faults: insecurity, taking the form of recurrent depressions within nations, and of tariff competitions and imperialistic wars among nations; and faulty distribution, in which selfish shrewdness rather than public service normally won disproportionately large rewards. The problem is, of course, to preserve these merits and to eliminate the faults; to reduce somewhat the competitive element and to enlarge the cooperative; to secure in the interest of the general welfare a better coordination of effort and reward, a more reliable continuity of employment, using toward these ends the unavoidable minimum of collective coercion, and preserving the maximum of individual initiative consistent with social health. The technical task of making necessary readjustments is obviously so complex and wide-reaching as to challenge, perhaps to dismay, the most competent. Certainly nothing more can be attempted here than an extremely general indication of the direction in which progress in this matter may be sought. To give at least a suggestion of something concrete and specific amid all this vagueness I shall hazard three bits of advice for the ordinary citizen: first, stop bellowing at Bolshevism and begin to study it; second, instead of merely fearing Fascism, examine carefully its advantages and limitations; third, judge our

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democratic-nationalistic-capitalistic system by its apparent adaptability to the needs of today and tomorrow rather than by its past achievements.

The deflation of nationalism, long overdue, seems more nearly possible and more urgently necessary today than heretofore, and the time is ripe to urge it frankly. The large share of an exaggerated nationalism in the present stalling of the world's economic machinery is now so evident that the sufferers, however jingoistic they may have been in the past, are at last somewhat disposed to listen to facts and reason. A few timely facts on which to base a more nearly sane reasoning about nationalism are the following:

The rampant nationalisms of 1914 caused the World War, one of whose malefactions is that colossal derangement of trade and finance which so greatly helped to produce the present world depression.

The haughty and alarmed nationalisms of the victors in that War, and the resentful nationalisms of the vanquished, effectively bar the establishment of any just and orderly security on which to rebuild the welfare of humanity.

National greed for exclusive economic advantage has cluttered up the world with tariff walls, thus denying major commercial benefits to all in order to secure minor gains for a few.

The dogma, so widely and devoutly believed in today, that no nation can honorably tolerate limitations on its sovereignty, is a peculiarly malignant and provocative survival of ancient tribalism, offering only disaster to the closely knit civilization of our times.

The boastful assumption of unique excellence and unquestionable righteousness for one's own nation, as commonly fostered by the schools, the press, and the politicians of nearly all countries, makes peace precarious and war perennially imminent.

At critical moments the wisdom of international statesmanship is futile and powerless in face of the fervor and the fury of narrowly nationalistic patriotisms. According to the current phrase, "no government could survive" in Poland or Germany, for instance, which took a rational position toward the problem of the Polish Corridor and Danzig, or in Japan and China which viewed the vexatious Manchurian and Shanghai tangles in a judicial rather than a jingoistic manner. With a perfervid nationalism thus passing beyond rational guidance in any grave international emergency almost any-

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where in the world, the safety, or even the survival, of our civilization is doubtful.

In the presence of these facts, thoughtful and courageous persons in every nation should lead a direct attack on that inflated nationalism which the twentieth century has inherited and cherished as one of its most precious prejudices. A deflated nationalism would not, of course, solve all our international problems immediately, but it seems to be an indispensable preliminary to their solution.

It is, I believe, no fantastic presumption to claim that the influence of Washington's example is in accord with criticisms and proposals such as those just given. His support of industrial capitalism and republican nationalism in the eighteenth century carries no assurance that he would approve the continuance of these systems unchanged, if they seemed no longer adequate amid twentieth century conditions. What his example teaches is rather that a wise conservatism includes a watchful readiness to modify, or even to replace, outmoded institutions. It is highly desirable, moreover, that the mighty influence of Washington be rescued from those who are trying to exploit it wholly in the interest of reaction and a return to eighteenth century "normalcy." Patriotic celebrations in honor of national heroes, American and other, too often take on the character of exhortations either to stand pat where we now are, or else to go back to "the good old days," even though these very heroes we are lauding were active chiefly in leading on to better days ahead. It is a perverse and dangerous misuse of the memory of our pioneer statesmen to count them as upholders of the *status quo*. George Washington led armed revolt against the *status quo*, and his leading was forward toward the new, not backward toward the old. Now is the critical moment for emphasizing this fact. While all America is celebrating the bicentennial of his birth let us send the challenge far and wide against those who misuse his name and fame as a shelter for outworn institutions and ideas. Surely Washington was of that number who courageously turned their backs upon the false securities of the past and ventured hopefully forth into the creative uncertainties of the future. The forward-looking Americans of today have an indefeasible right to claim him as their spiritual ancestor and to invoke his blessing on their constructive efforts to rescue our common country and our common world by moving courageously forward.

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Our Moral Morass

FOR many Americans heaven and hell are no longer strong sanctions for morality. Many are quite indifferent concerning the arguments of both science and religion. In short, many Americans no longer have a philosophy of life. They live for no particular reason. They have few cultivated tastes. Consequently, they are inclined to live for immediate satisfaction of the senses. Here is the deepest cause of crime and wasted life, a moral morass whence at least two paths lead.

The first is a path into which children and youth should be guided —the way of creation and appreciation. These are the strongest positive sanctions of morality—stronger than the old indirect fears and hopes. An early cultivation in the home, school, and church of the natural tendency to create and of general good taste—love for the beautiful, the true, the good—is almost a *sine qua non*, not only of a decent civilization, but of the true scholar as well.

Here is suggested an answer to the eternal question, What is the good?—an answer which also points to the motive and reason for scholarship. The good is that, whether object or act, which in the long run increases the creative activity of humanity and thus of the total reality of which mankind is an intimate part. Creativity in itself, however, is not necessarily good, for a liar may be more creative than a truthful man. But the liar creates a hindrance to the cooperation of men—a cooperation which, because of ever greater specialization due to the increasing amount of knowledge, is ever more essential to the creative work of any man. Because the lie tends on the whole to weaken man's creative ability it is bad. Fortunately the work of scholarship has been predominantly good. It has contributed most perhaps to the increase of creative ability and activity in the world. Man in this marvelous capacity seems to tap the vital sap

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channels not only of his own nature, but of the nature of the universe itself. In the power to create and in the joy of creating and appreciating, man tastes the very essence of divinity.

The second path leads across all boundaries, out from a stupefying provincialism—no longer geographical, fortunately, but unfortunately an even more demoralizing type—provincialism of the intellect. Scholars increasingly confine themselves within the boundaries of a small province of the intellect, increasingly become specialists, each knowing more and more about less and less. This is good, but if unsupplemented makes a man provincial as surely as when the horse had a monopoly of transportation. A man can no longer be expected to explore thoroughly more than one realm of learning but he can, and perhaps should, make short excursions into all of the important areas of human experience and knowledge. The resulting synthesis will help him discover that jewel of great worth and rarity—a balanced view, not only of his specialty but also of life's meaning and values.

These two paths, I believe, are the only dependable ways out of our moral morass. Not law applied externally but breadth of understanding and good taste produce the good citizen. Formerly, religion supplied an understanding of the nature of man and the universe, of the meaning and manner of living; and men were strongly persuaded to save their souls accordingly. If souls and civilizations are to continue to be saved, the leaders in religion and learning must soon agree upon an interpretation that will be accepted generally and be a guide to life. Any satisfactory interpretation must synthesize all science, all art, in short all experience, and will, I believe, involve man in a cosmic cooperative creativity.

William Allison Shimer.

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The Roll of Honor of the Colleges

THE grant of a charter for a chapter of Phi Beta Kappa has for many years been widely regarded as the highest form of recognition which can come to a college. The Society's century and a half of devotion to scholarship and the large number of its members who have been outstanding citizens are known to all.

The excellence of a college as a nursery of scholarship is the measure of its worthiness. In recognizing excellence the Society not only helps to spur the individual student to make the best of himself but it also encourages colleges to improvement in high scholarship.

There are numerous organizations which have undertaken definitely, and with intention, to distinguish among colleges and universities and to group them according to their excellence in one or more particulars. One such organization is interested primarily in whether a college can and does fit its students well for graduate study. The regional associations of colleges and secondary schools such as the North Central or the Southern likewise list those colleges and universities which meet certain requirements. Similarly, many state boards of education, church boards, and so on, distinguish within certain groups or limits those institutions which meet certain stated standards from those which do not. To some these organizations have seemed at times to place too much emphasis upon externals—such as buildings, laboratories, libraries, financial support, higher degrees held by the faculty, teaching hours, and size of classes. Such things are easy to measure and compare. Every one knows that they are not the things which are most important, though they may be the valuable or even necessary means. Even if these organizations may sometimes have done their work imperfectly they have done much to enable the public to distinguish between the weaker and the stronger colleges and universities. They have helped materially to raise the general level of the colleges of the country. It still remains true, however, that in spite of some unevenness, the roll of chapters of Phi Beta Kappa is the honor roll of them all.—ADAM LEROY JONES,

Chairman of the Committee on the Classification of Colleges and Universities of the Association of American Universities.

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College Students and Kentucky Miners

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AMERICAN students are notoriously indifferent to politics. Many of them are indifferent to almost everything. Perhaps it is not their fault, nor is it any more certainly the fault of their instructors. In any event, American students have never displayed the zeal for political agitation that has characterized student groups in western Europe, Latin America, and the Orient.

Early in February a group of students in the colleges in New York City got the idea of sending a delegation to have a look at the Kentucky mining districts. Whether the idea rose spontaneously in their group from an interest in the Kentucky situation and a study of various reports that had come from that region, or whether the idea was suggested from an adult group interested in the Kentucky agitation, the present writer does not know. In any event, the students took it up with enthusiasm. In all they were able to muster about eighty young people, who on March 23 set out for Harlan and Bell Counties. It would be difficult to say exactly what the motives of this enterprise were. Fundamentally, they wanted to see for themselves what was going on in the Harlan coal region. They wanted to see how the miners were living; they wanted to discover, if they could, the hardships they were suffering, and the degree of unemployment. They had heard many stories of oppression and exploitation in Harlan. They could hardly be said to have disbelieved these or to have been in doubt as to their general truth, but they did want to see for themselves.

It would be an exaggeration, however, to call their adventuring an effort to make a dispassionate sociological inquiry. On the other hand, it would be unfair to brand their enterprise as a piece of Communistic propaganda. Many if not most of the participants have various degrees of radical sympathy. Some of them were connected with local chapters of the League for Industrial Democracy, which is affiliated with the Socialist party. Another group are members of the National Students

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League, whose sympathies are decidedly more radical. This group insists that they are not connected with any branch or unit of the Communist party, but they are clearly interested in, and sympathetic toward, the Communistic program.

The lively cavalcade had a pleasant and uneventful journey from New York to Knoxville, where they spent the second night. Friday afternoon they proceeded to the Cumberland Gap. There they were met by the Sheriff and District Attorney of Bell County and a huge *posse comitatus*, variously estimated at 150 to 300 persons, most of them armed and many of them wearing the badges of deputy sheriffs. An attempt was made to dissuade them from entering, and when they insisted that they had a right to proceed, they were hurried off to the Middlesboro Court House. There they were subjected to a rigorous questioning concerning their origin and their religious and economic beliefs, at the conclusion of which they were told that they might not remain in the County. Despite all protest that their constitutional rights were being denied them, they were unceremoniously and forcibly ejected from the State and hurried through Virginia back to Knoxville.

There they remained for a day, and on Sunday journeyed to Nashville and Frankfort to appeal to the Governors of Tennessee and Kentucky. The Governors insisted that they were powerless to aid them, and the travel-weary group headed homeward via Washington, pausing to appeal to certain sympathetic members of the Senate.

It would be difficult to appraise this adventure in terms of its value and significance in the arousal of student thought in America. It may have a considerable effect, however, upon the situation in Harlan. It is possible that the publicity which the high-handed action of the local authorities brought upon themselves will lead ultimately to senatorial investigation. It may be that these students will succeed in arousing national interest in the condition in the Kentucky coal fields which journalists, lawyers, and other groups have completely failed to arouse. As for its effect upon the students who went, and student opinion in the colleges which they attend, one can be less certain. Their treatment in the Middlesboro Court House was hardly calculated to enhance their respect for the orderly processes of American law. Nothing could have been better contrived to convince them that all the stories they had heard of economic hardship and political oppression were well founded. Indeed, it is difficult for an outsider to refrain from wondering what it was that these officials were trying to hide. Equipped as he was with several hundred armed deputies, the Sheriff of Bell County could hardly have been afraid that a little group of eighty unarmed boys and girls could disturb the peace of his County, however radical their thinking. They set out from New York and neighboring states, and despite their seriousness, could hardly be called an organized group. They returned, however, with a surprising solidarity of interest and purpose. What had begun as a kind of sociological

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sightseeing trip had turned into an adult adventure in the processes and realities of American government.

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The Wisconsin Alumni Research Foundation

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THE unique project of a group of alumni to patent and develop the commercial possibilities of exceptional discoveries made by University of Wisconsin scientists, as a means of accumulating funds to aid other University research and of safeguarding the social values of such patented discoveries, has in six years attained a degree of success that is attracting attention throughout the university world.

Beginning on November 14, 1925, with one asset—the willingness of Dr. Harry Steenbock, Professor of Agricultural Chemistry, to assign to public use a patent for his discovery, known as Vitamin D—this group of alumni, incorporated as the Wisconsin Alumni Research Foundation, has extended its activities until it now has taken up the commercial development of nine other discoveries, has accumulated an invested capital of more than $400,000, and this year (1931–32) was able to turn over to the University an income of $21,500 to aid various research projects.

When he first realized the commercial possibilities of his researches in the development of antirachitic properties (Vitamin D) in pharmaceutical and food products subjected to irradiation by ultraviolet light, Dr. Steenbock desired to see the income from his discovery devoted to scientific investigation and offered to assign his patent to the University if some practical method of handling it could be worked out. Previous experience with his Vitamin A process indicated that a university is not a suitable organization to exploit such a patent in the business world. After many methods of administering the enterprise had been canvassed, there developed the idea of a non-stock corporation organized by prominent alumni who were willing to advance the necessary funds to float it. The management was vested in six alumni trustees at the outset and later, in July, 1930, Dr. H. L. Russell, former dean of the Wisconsin College of Agriculture, assumed the executive management. Although the Foundation is now developing other discoveries, almost all of the income so far has been from royalties on the Steenbock patents, and by 1930, after three years of development, the annual gross income had reached $354,590.

So far the licensing of the ultraviolet patents has been confined to foods and medicinal preparations. The drug contracts were placed with five leading pharmaceutical houses of the United States and Canada, and, with the aid of the American Medical Association, the product was standardized under various trade names, such as Viosterol and "fortified" cod liver oil. Similarly, use of the process has been extended

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commercially to breads, health crackers, breakfast foods, and powdered milk, all intended for children's diet. Meanwhile it has been necessary for the Foundation to decline hundreds of requests to use the process or its name in cosmetics, chewing gum, candies, soft drinks, and other products. So earnestly has the Foundation avoided undesirable exploitation of the public that it has strictly limited the price, and controlled the advertising, of products sold under its licenses.

Although Dr. Steenbock was vigorously opposed to accepting any share of the large sums accruing from his discovery, the Foundation ultimately insisted upon a plan, to apply to all its patentees, whereby the inventor receives 15 per cent of the "net income" and 85 per cent goes to the Foundation.

The nine other discoveries which the Foundation has undertaken to handle commercially include a process of producing lactic and acetic acid, liquid air for freezing of hard shell seeds, use of copper and iron salts in anemia, acetic acid and glucose fermentations of cellulose, an apparatus for measuring venous pressure, a leavening agent, a mechanic's cleanser, pituitary hormones, and marine paint—all of them invented and patented by University of Wisconsin scientists.

In the allotment of research grants from income of the Foundation, the policy has been adopted of working entirely through the regular channels of University administration, so that University officers have complete control of the nature of the projects assigned, appointment of all staff members, all expenditures, and publication or other disposition of results. Besides providing substantial grants-in-aid to nine different research projects, with the $21,500 income available this year, the Foundation has also established as permanent activities a "control laboratory" in a University building, a "University computer" to aid scientists in various departments, and an annual "lectureship in science," which this year brought Professor R. A. Millikan to Wisconsin for a series of lectures.

If research can thus be put to work to finance research, the success of the Wisconsin Alumni Research Foundation suggests an interesting expedient to any state institution which necessarily faces difficulty in obtaining extensive funds for research from legislative appropriation or from endowed foundations.

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Renaissance Custom Revived

WILLIAM GLEASON
St. Peter's College

RENAISSANCE custom was revived by St. Peter's College of Jersey City when five honor men who had gained the privilege of special tutoring in Latin and Greek gave a public exposition of Demosthenes' Orations. This is an instance of those efforts to cultivate extraordinary talent which, since the formation of the Ratio Studiorum in 1599, have been made by the Jesuits.

The exposition of Demosthenes' ten public orations, presented by

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William J. Roehrenbeck, included translation, rhetorical exposition, and historical setting. There was an absorbing battle of wits when the examiners shot questions at the expositor and an evident familiarity with the great orator, shown by the rapidity and sureness of the answers. The audience followed this word battle with keen interest and asked questions, *e corona,* about Demosthenes' style, character, and statesmanship. This was followed by the exposition of Seneca's nine tragedies and the prætexta by John McGlade, John Madden, Fred Rolzhausen, and Charles O'Hara. They undertook translation, dramatic and literary criticism of each play, and a comparison with Greek and Elizabethan drama. The four expositors were examined by classical professors of various Eastern colleges. In the course of the second exposition the audience continually showed where its favor lay, by applauding whenever the students parried some particularly sharp thrust of an examiner.

At St. Peter's any student whose marks in all subjects are over seventy per cent and whose average for the quarter is ninety per cent in any given subject may for the subsequent quarter have private tutoring.

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The Library in the Crisis

CARL H. MILAM

Secretary, American Library Association

"We of this generation," says Raymond B. Fosdick in a recent address, "are living in one of those crises in history when changes of a far-reaching character are in the making. . . . Apparently we have arrived at one of those crucial points —like the Renaissance and the Reformation—when old ideas and values no longer serve, and new intellectual scaffolding and new social controls have to be built on the ashes of what has gone."

The depression has created a large increase in the number of people who frequent the libraries and in the number of books borrowed for home use. An official statement from the American Library Association says: "The book supply, reading room space, and personnel of libraries are being taxed now as never before because of the unprecedented number of readers and students." Since the depression began, one public library has lent 42 per cent more books to adult readers in one year than in any previous year of its history. From the public libraries of 36 large cities, 8,000,000 more books were lent for home reading and study in 1931 than in 1930. Similar proportionate increases in circulation are reported by libraries of all sizes and in all parts of the United States and Canada. In many cases the increase has occurred in spite of the fact that the library was unable to purchase new books. Some libraries are finding the seating capacity of their reading rooms wholly inadequate. At Providence, last winter, it was necessary to establish a time limit and to ask a reader who had enjoyed the luxury of a chair for an hour to give place to another. A statement from Los Angeles says that the sociology room of the public library

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has needed a "standing room only" sign.

It is impossible to estimate with any degree of accuracy how much of the additional and total reading done is related to current questions, but some impression may be gained from the informal statements of librarians. On the whole, these statements are encouraging; librarians are of the opinion that readers now as never before are seeking to form intelligent judgments on social and economic problems. The library with a 42 per cent increase in circulation to adults reports "an equally striking advance in the quality of reading done, and such an increased demand for sequential reading that the library has been forced to employ for several weeks an extra copyist in order to keep up with the special reading courses requested, many of them courses on present-day problems."

The Cleveland Public Library has undertaken in a recent report to analyze the general changes in reading interests over a decade, placing the earlier date in the comparison thus, interestingly, in another time of economic depression. It has been found that greater demand is evident from "those who are realizing that planned and systematic reading can widen their mental horizon, fill in gaps in their education, give needed cultural background and new life interests." In the field of psychology, reading is less upon pseudo-psychological and more upon genuinely psychological subjects. There is an interest in unemployment as a problem which should be studied and understood, and it is apparent that business men have discovered the library and are using the resources of the sociology division. Readers no longer seem to think of adult education merely as a project in Americanization work among immigrants. Higher standards of taste and understanding are evident in the use of literature on the arts; language no longer is studied solely by the leisure and academic groups; and, in the fields of history, travel, and biography, "much interest in international problems is shown." This report notes also that the demand for up-to-date material on international relations necessitates constant use of encyclopedias, yearbooks, and periodicals on foreign countries and in foreign languages.

"We have noticed an increasing interest in, and a greater demand for, books picturing life and conditions, political, social, and economic in Russia, China, and India," writes the librarian of Davenport, Iowa. The Cincinnati Public Library notes that a more serious use of the library collection is reflected in the questions which are asked, and the St. Louis Public Library finds that increased attendance in its reference divisions is drawn from the ranks of business men who seldom find leisure for study in times of normal business activity.

The library patrons whose reading has been influenced by the abnormal conditions which now prevail may be grouped in three classes: (1) those who read on current questions, economic, social, political, philosophical; (2) those who read to improve their ability to earn a living; and (3) those who read to kill time. The last group is probably

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the largest, the first the smallest; but the numbers in group one are not inconsiderable. They must total some hundreds of thousands. If to this respectable body of thoughtful library patrons were added those serious readers who do not depend on public libraries for their books and periodicals, the resulting total would not be wholly discouraging. It would probably tend to justify the statement of Dr. Charles A. Beard that whereas in the past depressions were thought to be inevitable, people are now "doing constructive thinking about preventing them."

It may be assumed that much of the reading on current issues is a natural result of the intellectual unrest which is said to be the inevitable concomitant of economic insecurity. But librarians, although their budgets have shrunk as their work has grown, have not been simply passive. They have encouraged such reading by distributing thousands of copies of inexpensive lists on unemployment, international relations, Russia, the use of leisure, economic planning, and other similar topics. A circular entitled "For Thinking America," consisting of a brief list of challenging questions, followed by a list of twenty-five good books, has been issued by the American Library Association and is now being distributed by many libraries. At the request of the Association, the President's Organization on Unemployment Relief is distributing its pamphlets to about two thousand libraries. To assist libraries in obtaining the many pamphlets now available on various aspects of the economic situation, *The Booklist* of the American Library Association has recently published a long list of free and inexpensive material prepared by the New York Public Library. Libraries have also issued timely reading lists through local newspapers and displayed books, old and new, on appropriate subjects. Radio broadcasts, especially the series of lectures on economics of the depression, sponsored by the National Advisory Council on Radio in Education, have been advertised, with emphasis on the book lists issued for those who wish to read as well as listen. In much of this publicity the libraries have been assisted by bookstores and publishers.

The public library's chief function is to serve as an agency for the dissemination of the ideas and facts recorded in books. It is in a particularly strong position to deal with reading on controversial questions because of its traditional policy and practice of supplying the books on all sides of every question. Its ability to serve the needs of the serious student is improving, in spite of the fact that new thousands of casual readers are being added daily to the lists of borrowers. Such improvement is coming through increased book collections, improved staffs, and especially through a new emphasis on the individual reader, as represented by the appointment in large libraries of readers' advisers or consultants. These library assistants have the time to learn something of the inquirer's interests and background, and to assist in planning for him a course of reading to suit his individual needs. They usually have at their command, also, when

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occasion requires it, the advice of subject specialists. Though readers' advisers are comparatively few in number, the idea on which such positions were created is widespread, and there are few public libraries in which the serious student, if he will identify himself as such, will not receive preferential treatment.

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JOSEPH JAY HODUPP, JR., who was elected to the Columbia chapter of Phi Beta Kappa in April, 1932, exemplifies the ideal combination of mental and physical excellence.

Hodupp graduated in 1928 from the Horace Mann School for Boys. After a year's study abroad he entered Columbia College in the fall of 1929 and has completed the requirements for the B.A. degree in three years. In addition to maintaining a high academic record throughout his course he has at the same time been an outstanding member of the football, basketball, and track teams, winning varsity letters in all three sports.

During his course he has earned the admiration and respect of both the faculty and the students of the College. By popular vote of his classmates he has just been awarded the Alumni Prize, which was established by the Association of the Alumni of Columbia College to be awarded annually to the "most faithful and deserving student of the graduating class."

THREE PROMINENT ATHLETES at Harvard University are also members of ΦBK. W. B. Wood, Jr., renowned football captain in 1931, was one of eight men elected to ΦBK in his junior year. He was also a member of the hockey team, is on the baseball team, and is proficient in tennis. The climax of his extra-curricular activities came in his election to the presidency of the Student Council and to the first marshalship of his class for the commencement festivities. Oscar Sutermeister, '32, is an able pole-vaulter known in inter-collegiate track meets, and Peter Shuebruk, a junior member, is also on the track team.

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Institute on Near Eastern Affairs

WILLIAM T. HASTINGS
Professor of English, Brown University

On March 11 and 12 an Institute on Near Eastern Affairs was held at Brown University. The speakers included Henry Morgenthau, former Ambassador to Turkey; Louis E. Van Norman, former commercial attaché of the American Legation at Bucharest; James L. Barton, Chairman of the Near East Relief; Wallace Murray, Chief of the Division of Near Eastern Affairs, Department of State; David Mitrany, visiting professor at Harvard; Felix M. Warburg of New York; Philip Marshall Brown of Princeton; and Faik Konitza, the Albanian Minister to the United States. The list of delegates comprised some seventy students of the problems of the Near East.

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Institute on Near Eastern Affairs

The opening address of Mr. Morgenthau, before a large public meeting on the evening of the 11th, was permeated by the sympathetic interest in the nations of the eastern Mediterranean and the desire to deal understandingly with their problems which dominated the whole series of conferences. Describing graphically his own personal contacts with a land which has been the birthplace of three world religions, Mr. Morgenthau sketched the effects upon it of the impact of Western civilization. The post-war shift in the economic and political battleground of the Western powers had left the Balkans and the other Near Eastern states free for the first time to seek a peaceful rehabilitation.

The morning session of the Institute on March 12 was presided over by Professor George Grafton Wilson of Harvard. The first speaker, Mr. Louis Van Norman, presented with a wealth of detail the "Economic Backgrounds in the New Near East," particularly Rumania, Turkey, and the Mandates. It is an area one third greater than the United States and its equal in population, comprising sixteen countries—a land old politically and socially, but new economically. Progress is impeded by the survival of old racial and religious antagonisms, the physical handicaps of mountains and deserts, and different customs and legal codes; as well as by the readjustment of political boundaries and the establishment of new loyalties. The speaker concluded with a rapid survey of the economic situation in the various countries. The phenomena include financial rehabilitation, road building, irrigation, improved agricultural technique, and the development of petroleum fields and other natural resources.

Dr. James L. Barton reviewed comprehensively "American Educational and Philanthropic Interests in the Near East." In a historical introduction he pointed out that "America's paramount interest in the Near East is that exerted by the American foreign missionaries and the enterprises and institutions which have sprung from their work . . . begun over one hundred years ago and continued to this day." During the Great War they took over relief work in the Near East, later enlisting a corps of younger Americans in their places. The present activities of the Near East Foundation include care of orphans; instruction of the population in modern methods of agriculture, hygiene and sanitation, child care and training; the opening of rural social centers and libraries; cooperation in religious education; and assistance to local government agencies. The educational service of the missionaries in the Near East began with primary schools, but has now developed till there are eighteen American colleges in the territory, all but two of which sprang directly from missionary origins. Five are still under the control of missionary societies, the others under independent boards. They are all an integral part of the educational system of their respective countries. Their purpose is to develop in their students a high character and to fit them for citizenship. Their plants represent an expenditure of over $11,000,000 and they have endow-

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ments of $15,492,000. The total number of students in 1931 was 8,500. "These American colleges . . . are the visible interpretation of a message of good will from the people of America" to the Near East.

Mr. Murray's paper gave a vivid picture of "Westernization in Turkey and Persia." In Turkey between 1922 and 1928 occurred "the abolition of the Sultanate, the declaration of the Republic, the abolition of the Caliphate, the abolition of Moslem religious schools, the adoption of a new constitution," and many other changes, of which one of the most significant was the adoption of the Latin alphabet. The Arabic alphabet was unsuited to the Turkish language and was the cause of general illiteracy. The new alphabet was promulgated dramatically, adopted at once with enthusiasm, and has produced sweeping changes, among them a great increase in literacy and the replacing of the native literature by Western classics. In Persia there have been equally extensive political reforms, but social changes have been made more conservatively. In the economic field there is a tendency toward the extension of government monopoly of trade. The Persians have a rich national literature and have made no change in their alphabet. Their general tendency, unlike that of the Turks, is to adapt rather than to discard the past.

Dr. Mitrany described "Diplomatic Rivalries in the Near East," holding the Western nations largely responsible for the rivalry and unrest in the Balkans. The great Powers in the past often prevented a pacification of that region and some are even now interfering with the formation of a customs union in the Balkans. France and Italy, he believed, were now competing for the political hegemony of the Near East. The Balkans, instead of being the cause of world unrest, were often its innocent victims.

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Summer Schools in Italy

SPRING and summer courses for mixed groups of foreigners and Italians, conducted in Italian under expert teachers, will be held in 1932 in Rome, Ravenna, Faenza, Perugia, Sienna, Florence, Varese, and Venice. These courses cover such subjects as Italian history and literature of various periods; music; ancient, primitive, medieval, Renaissance, and contemporary art; archeology; ceramics; Etruscan art; and in each summer school an intensive course in the history of the city in which the school is located. The Master School of music, held at Sienna, has secured the services of such outstanding artists as Fernando Germani, Claude Gonvierre, Ada Ruata, Arrigo Serato, Arturo Bonucci, Vito Frazzo. All students enrolled in these summer schools will receive passes to all monuments, museums, galleries, and excavations of antiquities in the Kingdom of Italy and the Vatican City.

Inquiries may be addressed in care of THE AMERICAN SCHOLAR.

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Higher Education in Czechoslovakia

JOSEPH S. ROUCEK

Professor of Social Science, Centenary Junior College

ONE of the most serious problems of the higher institutions of learning in Central Europe is the increasing overproduction of the intelligentsia with the ever decreasing possibility of having them placed. Fundamentally the difficulty exists because the academic degree, and especially the doctorates, were once regarded as qualifications for a state position; so much so, indeed, that eventually the qualification was regarded as a title to a position, and nearly everyone with a degree in Central Europe has become convinced that the State is under an obligation to secure him a state position.

The whole educational structure of Czechoslovakia differs from the American in that it lacks new methods, demanded by the changes in social and economic life. For example, there are, strictly speaking, no political science faculties in the universities. The lawyers, custodians of the past, dominate the whole life of the country, a domination which has led to the conception that a doctor of laws is really qualified to fill any high academic or political position.

What reforms have been made in Czechoslovakia have been effected more in the increase of institutions than within the older institutions themselves.

Under the new Republic the independent theological faculty of Olomouc (Moravia) was made Czech and strengthened. In Prague the Hus theological evangelical faculty was formed as an autonomous institute with all the rights and privileges of the universities. In Brno and Prague the three-year courses for teachers of gymnastics were renewed. For those who want to specialize in the administration of archives, or in Czechoslovak historical sciences, a "High Archival School" of University rank was opened in Prague in 1919. Librarians are educated in the state Czech and German library schools. There are also several private institutes—the schools of high pedagogical studies in Prague and Brno, and a private two-year pedagogical faculty in Prague. The Free School of Political Sciences in Prague offers two-year private courses.

Of the independent scientific institutes there are the Masaryk Academy of Work for the organization of technical work, and the Slavonic and Oriental Institutes, interested in the promotion of scholarly work with Slavs and Orientals respectively. But all these institutions, whether private or scientific, need to secure adequate buildings and libraries and to establish seminars; and this will require many years. There are also institutes whose courses are conducted in foreign languages and elsewhere seminars conducted in foreign tongues: Ukrainian University, Russian legal faculty, the economic seminar of Professor Struve, Russian Institute (for intensive study of Russia), and the Russian Pedagogical Institute of J. A. Komensky,

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which prepares instructors and teachers for work in the future Russia. An important post-war change was the grant of complete equality to women students in higher institutions of learning.

More self-activity of the students is needed. The whole system, of course, produces a more independent type of superior student than the American system.

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Advanced Surgery Found Among Indians

ALES HRDLICKA

An intensive study of the many "trepanned" skulls in the National Museum collections in Washington has been made under the direction of the author of the following article, Dr. Ales Hrdlicka, Curator, Division of Physical Anthropology of the Smithsonian Institution. These are skulls in which holes were cut while the owners were alive. They are relatively abundant in prehistoric burials in the Andes region, but are found in isolated instances in various parts of the South American continent from British Columbia southward. Dr. Hrdlicka believes that the beginnings of this surgical art may have been brought from Asia by some of the original migrants and may be connected with the neolithic trephinings of Europe and northern Africa.

SURGERY, in at least one form, was an advanced art in the New World before Columbus. This was the operation for wounds in the skull, known as trephining. In the Andes there were skilled "specialists" in this line who perfected their technique on corpses, operated with extreme boldness and rather uniform success on the living, and appear to have been familiar with some anesthetics and antiseptics. These men, for the most part, attended the wounded after a battle, and their surgical science developed along the lines of the most frequent and serious wounds encountered. A large majority of the trepanations were not magical, to let evil spirits out of the body, but were plainly performed to treat surgical conditions, usually of an emergency nature. Moreover, the primitive surgeon usually saved his patient.

The greatest development of this art came in the mountainous sections of what are now Peru and Bolivia, where many battles were fought with slings, clubs, and stone and copper maces. The most frequent wounds were cracked skulls where pieces of bone had been pressed against the brain. The practice of the surgeons was to clear out the splintered or depressed area and relieve the pressure. This often required the removal of rather large segments of the skull. The brain, relieved thus of restraint at this point, occasionally pushed outwards. The Indian surgeons in such cases developed the art of fitting the holes in the skull with shell, gourd, and silver plates to prevent a dangerous brain hernia.

They performed clean operations, skillfully smoothing off any sharp or jagged edges from the hole they made, apparently without actually touching the brain itself, but stopping just short of it. This must have required considerable practice, which was probably acquired by post mortem operations, indicated by the presence in the collections of a few

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skulls where the wounds show no healing. It is difficult to believe that such painful operations as the trephinings in question, some of which took a long time, could have been performed while the patient was fully conscious. This suggests that some sort of anesthetic was used, probably some narcotic which rendered the victim insensible to pain.

That the wounds show astonishingly few traces of infection indicates that some sanitary precautions must have been taken and that antiseptic lotions, powders, gums, or ointments were used. Several such, it is known, were familiar to the Indians.

There apparently was a fair knowledge of anatomy among some of the aboriginal medicine men, gained empirically from the handling of patients as well as of animals.

The operations on the skull were performed with stone, obsidian, and copper instruments, by cutting, sawing, scraping, and drilling. In scraping, which was often extensive, the surgeon went through the outer and middle layers of the skull without touching the inner compact layer which lay next to the membranes of the brain. Where a larger area of bone was to be removed it was customary to cover the space with criss-cross cuts and then to pry out the pieces of bone, one after another.

Some of the skulls show two, three, or even more such operations, performed evidently at intervals of years. In general, the wounds show good healing, which indicates that the patients survived and lived long afterward. This surgical technique, developed empirically and perfected through experience, was a true and high class surgical procedure.

Various tribes had different practical expedients for preventing infections and stopping the flow of blood. The latter was accomplished either by cauterization, or by applying scrapings from tanned skins, these latter having a tendency to coagulate the blood. Wounds were cleaned with a decoction made from willow bark or with others having probably some antiseptic value.

The remarkable skull surgery of the Andean region is an example of what could develop from primitive practises in response to pressing needs. Medicine men failed to develop an equally good technique in other lines because they had little occasion to do so. Their people were for the most part distressingly healthy. The New World was free of most of the maladies which ravaged the Old and which were only introduced with the white men. Tuberculosis and rickets were certainly unknown. Cases of cancer were very rare. That deaths from childbirth were common is indicated by the relatively large number of skeletons of young women in the ancient burials. There was also a large child mortality, principally from digestive disorders.

Aside from surgery, Indian medicine was a combination of empirically determined treatments mixed with magic, about on a level with that of pre-Christian Europe. Indian tribes had their venerable practitioners as well as quack doctors. A medicine man with a good record of cures

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charged high fees. Proprietary "medicines," including curative songs, could be purchased by one healer from another but were costly.

The white man's medicine has benefited very materially from the materia medica of the Indian. There are hundreds of remedies of Indian origin included in the Pharmacopeia of the United States, such as cinchona (quinine), coca (cocaine), and cascara sagrada.

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THE TRANSPORTATION LIBRARY of the University of Michigan, with 22,000 volumes, 70,000 pamphlets, and many pictures, prints, advertising posters, and other items of historical interest, now constitutes what is probably the most complete record of transportation and highway engineering in the world.

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Cooperative Research

J. TOWNSEND RUSSELL
University of Toulouse and the Smithsonian Institution

DURING the summer of 1931 the Smithsonian Institution and the University of Toulouse carried on cooperative excavation in the cave of Marsoulas and two other sites in the Haute Garonne, France, where remains of the Aurignacian culture were found. One outstanding piece consisting of a conch shell belonging to the species of Triton Nodiferum Lamark was discovered in Marsoulas. It was the first of its kind ever encountered in paleolithic level, and goes to show the wide migration of these primitive hunters.

As a result of this work an agreement has been signed between the two institutions which insures the continuance of cooperative research for ten years. Responsibility for excavation is divided and the collections found are to be equally shared. The work is under the direction of Count Henri Begouen, Professor of Prehistory in the University of Toulouse, and J. Townsend Russell, collaborator in Old World Archeology at the United States National Museum, who acts as field director.

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A Handbook of Scholarships and Fellowships

A HANDBOOK, *Scholarships and Fellowships: Grants Available in United States Colleges and Universities* (Bulletin 1931, No. 15, 30 cents), has just been published by the United States Office of Education. It is a list of 34,013 scholarships and fellowships offered to graduates and undergraduates in the United States, and includes much information about the various aids listed. The stipends range in value from $25 to $2500, with an approximate total value of $10,000,000.

The oldest scholarship given in this country, offered by Harvard University, was established by Lady Mowlson of London in 1643, seven years after the founding of Harvard.

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Discussion

Agrees with Woodbridge, but —

To the Editor:

I wish to express my personal and professional appreciation of the timely address by Professor Woodbridge at the University of Berlin, which was published in the first number of this magazine. While I might not have developed some ideas in quite the way he did and might also have avoided some others, the address as a whole I regard as a splendid presentation of the outlook upon the world which the mass of scientific material in every field makes possible to-day. Man is a part of nature, without, however, necessarily implying what nature itself is. Still further, the suggestion that our modern Western civilization is something new and quite distinct from the civilizations that have gone before, I heartily subscribe to.

While, however, I thus agree with the main tenor of the address, I should substitute for the expression, used several times, "incorporation of man into nature," the statement that we *find* man there. That is what the evidence points toward and there is no gainsaying it. From quanta to electrons and protons, to atoms and molecules, to worlds and the beginnings of living things, apparently in colloidal substances, and from that lowly origin through all the successive stages from protozoa to vertebrates, mammals, and primates, there is an unbroken ascent to human beings and their marvelous possession, the human brain, the organ of intelligence. We may well speak of this as the ripest fruit of the cosmic processes to date. To ignore all this is to shut one's eyes to the vast accumulation of evidence gained through the laborious activities of scientists during the last three or four centuries.

And the end is not yet. Man has his feet in the depths of untutored nature, but rears his head among the clouds. All the vast collections of scientific material, all phases of civilizations both past and present are the product of the human brain with its accompanying intelligence, and as yet there is no limit we can espy to what may be achieved. Some eminent scholars maintain that this instrument of thought is still undergoing evolution, and that problems, such as mechanism and teleology, which have hitherto successfully resisted the human mind, may be solved easily by distant generations of men; and Lloyd Morgan suggests that ultimately some men will walk as gods among their fellows.

The address breathes the spirit of modern scientific thought, tempered not a little with what its author could salvage from the philosophy and metaphysics of the past.

Gregory D. Walcott, Long Island University.

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Scholars Classified

ARTHUR GUITERMAN

In scholarship as in all other activities we always have with us the two phenomena, The Real Thing and The Stuffed Shirt. I have known both varieties; but while I don't know what the success statistics for each may be, I am at least sure that in no circumstances would The Real Thing change places with The Stuffed Shirt.

TELLING THE BEAVER

Someone told the Beaver
That the Fox was mighty clever
And the Owl was famed for wisdom
And the Mink was fair to see
And the Ants were raising ant-hills
That were sure to last forever.
"Glad to hear," said the Beaver,
"But I have to fell this tree."

Someone told the Beaver
That he might be fairly able,
Yet his work was far too earthy
For indelible renown,
And the Muskrat's reputation
Was more eminently stable.
"Stand from under!" cried the Beaver,
For his tree was coming down.

Someone told the Beaver
That he really *was* respected;
Would he come and give a lecture
Showing when and where and how
It was best, in his opinion,
That a dam should be erected?
"Mighty sorry," said the Beaver,
"But I'm building one right now."

Then they told the Beaver
(They are always telling Beavers!)
That his standards were the standards
Of an antiquated Turk,
While the Sloth's exalted doctrine
Was the one for true-believers;
For the talkers must be talking
While the Beavers do the work.

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Phi Beta Kappa Keys for Engineers

J. A. L. WADDELL
Consulting Engineer

IT is not often that one encounters an engineer wearing a Phi Beta Kappa key. The reason for this is that the honor is academic or literary —not scientific or technical. Those engineers who possess the key either had a college course preceding that of their technical school, or else it was a gift bestowed in later life for some special merit—for instance, technical authorship of fine literary style.

Engineers have at least two keys that they can earn, Sigma Xi and Tau Beta Pi; hence why should they covet that of Phi Beta Kappa? Of course, it is an additional distinction and, therefore, greatly to be desired; but that is not the reason why I am advocating that it be made available for attainment by engineers.

In my opinion, it would be a serious mistake to establish regular chapters of Phi Beta Kappa in engineering schools or in the engineering departments of universities or colleges; because so doing would militate against the fundamental object of the Society, which is literary in contradistinction to scientific.

Nevertheless, I believe that it would be good policy for the Society to award from one to three keys annually to the graduating classes of some of the leading technical schools as a recognition of special excellence in the English language and literary attainment, coupled, of course, with high technical scholarship. Engineers as a class, it must sadly be confessed, are lamentably weak in these two lines; hence any great incentive for them to excel therein would be truly a boon.

There has always been (at least until quite lately) a feeling among technical students that the study of English language and literature is not of much importance for them—in fact that it is a bore. This feeling has been encouraged by apathy on the part of the faculty, who used to deem that all their students should have had sufficient training in those subjects in their preparatory schools. Some of the older engineering practitioners have recognized the fallacy of this conception and have fought vigorously and continuously against it both orally and in print. So much has been said on the subject throughout the United States during the last half century that at last an effective impression has been produced upon some of the teachers in the technical schools.

Would it not be a graceful and kindly act on the part of Phi Beta Kappa to grant annually a very few keys in order to stimulate engineering students to perfect themselves in our language and literature?

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